

THE
SOUTHERN AGRICULTURIST.

JUNE, 1838.

PART I.
EDITORIAL AND ORIGINAL.

Monticello Planters' Society.

Monticello, S. C.

Dear Sir,—A copy of the Constitution and By-Laws of our Agricultural Society, was promised you for publication in August, 1837. Your courteous assent to the request of the Society at that time, has induced me (though somewhat unofficially) to undertake the performance of a duty which has been too long delayed; still I am but executing the wish and purpose of the Society.

The Constitution may need explanation; otherwise it might not be altogether intelligible.

Three or four years ago, the illicit traffic in cotton, corn, &c., between several white persons and our slaves, had been carried on to an extent so alarming, as to drive the honest portion of this community into the organization of a Regulating Club: the character of the club certainly should be appreciated, when it is known the constitution had annexed to it the names of our sterling planters, of professional men, and clergymen of different denominations. The organization was not to defeat the laws of the land, but to promote their wholesome influence: we had our vigilant committees, who were instructed to watch these prowling shop-bandits, and collect such testimony as would lead to their conviction in the judicial tribunals of the country; and upon the evidence, if substantial, a member of the club was deputed to play prosecutor, and drag the offender before a Court of Justice. The records of the Court will therefore strongly

illustrate the *quo modo* of our procedure. We have been beset by every clamor which ignorance and calumny could invent: to refute the aspersions thrown around us, we appealed to the reputation of the members of the association—besides our sessions were with open doors—there was no concealment. We now appeal to the constitution, which you will publish, as the written document that directed our movements.

We concentrated public opinion through the agency of the club; and in two years our neighborhood was completely, radically, essentially revolutionized. Many of the offenders have been compelled, but not by brute force, to desert their empty kegs, and seek other homes where they may meet congenial spirits. So far from wishing them harm, we earnestly hope they may reform, and become useful members of society. Our object as regulators having been accomplished, we were at a loss how to dispose of the funds accumulated from the few of our domestic abolitionists, who preferred to "pay and quit," rather than go before a jury. Resolving on the establishment of an agricultural society, this at once removed our hesitation.

The Constitution of the Regulating Club is embodied in that of the Monticello Planters' Society; and the public have thus a clear index, whereby they can honestly decide on our past course. To that constitution, we invite scrutiny; it is not perfect, but we imagine it is at least exempt from crime.

Our first reports, you will see, are general and historical: this is as it should be, since the committees are standing committees, and may report on the same subject (if they have new information) at any or every meeting. In the vocation of the planter, I am a mere debutant; that is, *virtually* no planter at all: but viewing the pursuit as one combining skill and science, I can never consent to the vulgar prejudices of the day, against what sciolists and agricultural quacks may designate as "book-farming." In other words, I have no ambition to discover an egregious want of sense, in opposing *assertions and dogmas* to truths, advocated and sustained by the most enlightened men of every age and clime.

I remain, Sir, very respectfully,

Your obedient servant,

B. F. DAVIS.

Report of the Committee on the Constitution.

The Committee to whom was referred the compiling of the Constitution of the Regulating Society, and that of the Agricultural Society, with such alterations as their wisdom might suggest, presented the following, which was unanimously adopted.

JAMES B. DAVIS, *President.*

Attest, DAVID ELKINS, *Recording Secretary.*

Constitution of the Monticello Planters' Society.

Adopted at Monticello, Fairfield District, So. Ca., August 2d, 1837.

PREAMBLE.

We, the subscribers, desiring to put down the illicit traffic of white persons with negroes ; to arrest all immoral practices hostile to our slave interests, and secure that quietude and harmony in their government most conducive to their happiness and our welfare ; also, to elicit the benefits both private and public that result from deliberations and experiments on agricultural subjects, do hereby form ourselves into a Society to be called the Monticello Planters' Society: we do therefore pledge ourselves to be governed by the following Constitution.

ARTICLE I.

Sec. 1. The Officers of the Society shall consist of a President, Vice-President, Treasurer, Recording Secretary and Corresponding Secretary, to be annually elected by a majority of the members present ; *provided*, the same shall be a quorum at the Anniversary meeting.

Sec. 2. In case of vacancy of either the President or Vice President, an election may occur at any other meeting than the Anniversary, to fill such vacancy till the annual meeting.

Sec. 3. The Vice President shall act in the absence of the President: and any member, on motion, when both shall be absent.

Sec. 4. At the meetings of the Society, the President shall take the chair, call to order, open the meeting, put

the question on all motions and resolutions, and declare the decision of the Society thereon. He shall have power to call special meetings, by giving previous public notice thereof for six days : *in his absence*, the same powers may be exercised by the Vice President.

Sec. 5. A quorum to do business, shall consist of the President or Vice President, or Recording Secretary, and at least one-third of the resident members.

Sec. 6. The Treasurer shall keep a book, and have the amounts regularly stated, and shall pay all orders of the President, countersigned by the Secretary ; he shall produce his books for inspection whenever called for by the Society, and shall turn them over, with all the papers and funds appertaining thereto, to his successor in office.

Sec. 7. The Secretary shall keep a book, and faithfully record the proceedings of each meeting ; he shall read the same at the ensuing meeting, and at the expiration of his term of office, hand over all his official records to his successor.

Sec. 8. The Corresponding Secretary shall have in charge all letters addressed to the Society, and answer the same under their direction ; which letters, answers, or correspondence, he shall keep regularly entered of record, and filed away : he shall produce his official records when required by the Society, and hand them over to his successor in office.

Sec. 9. The stated meetings of the Society shall be held semi-annually at Monticello ; the first meeting, the first Wednesday in March ; and the second meeting, the first Wednesday in October, of every year. Any regular meeting may be adjourned over from day to day ; *provided*, the said adjournment is agreed to by two-thirds of the members present : and no adjournment of the kind shall be allowed, unless to finish such business as could not have been accomplished the first day of the meeting.

Sec. 10. No person can be elected into the Society, as a member, without the unanimous vote of all the members present.

Sec. 11. Members of other Agricultural Societies, in this or other States, with which Society this may correspond, shall be considered honorary members of this Society, and may speak or write on any subject before it, but shall not be entitled to vote on any question.

Sec. 12. The members of this Society shall pay to the Treasurer, at each Anniversary meeting, the annual contribution of fifty cents.

Sec. 13. The members of this Society are bound in proportion to their respective taxes, according to the return of the tax collector of the district in which said member may reside, for any debts of responsibility whatever, and however occurring, in the exercise of any of the legitimate functions of the Society.

ARTICE II.

Sec. 1. There shall be three or more Vigilant Committees, whose duty it shall be to ferret out all illicit traffic between white persons and negroes; or any other misdemeanors of their respective neighborhoods: they shall report the same to the Society and abide their order, but should any delinquent or offender, from sufficient and satisfactory evidence, require immediate prosecution, then and in that case, the chairman of such committee shall forthwith proceed "as the law directs."

Sec. 2. The Vigilant Committees are subject especially to the discretionary orders of the Society; and on failure to discharge their duties, may be punished by fine or expulsion, as the Society may determine.

Sec. 3. There shall be a Committee, whose duty it shall be to investigate the peculiar and distinctive varieties of soil in this section of country, the composition of such manures as are best adapted to each variety, and report relative thereto at each meeting.

Sec. 4. There shall be a committee, whose province it shall be to experiment with the different kinds of cotton, the best mode of culture, preparation for market, &c., and report in writing at each meeting.

Sec. 5. There shall be a Committee, whose duty it shall be to experiment with the different kinds of corn, the best mode of culture, the soil and manures best adapted, and report in writing, if necessary, at each meeting.

Sec. 6. There shall be a Committee, whose duty it shall be to ascertain what kind of wheat is best adapted to our climate and section of territory, the best manner and time of sowing, and the causes connected with the failure or successful cultivation of the crop; and report the result in writing, when necessary.

Sec. 7. There shall be a Committee, whose duty it shall be to ascertain which is the most prolific of the various kinds of oats, and which is best adapted to our circumstances, with all accompanying considerations, &c., and report in writing.

Sec. 8. There shall be a Committee, whose duty it shall be to ascertain and define the advantages of a rye crop, the best mode of sowing, &c., and to make a written report of their investigations.

Sec. 9. There shall be a Committee, whose duty it shall be to inquire into and report in writing any and every particular connected with Barley.

Sec. 10. There shall be a Committee, whose duty it shall be to ascertain the best of the variety of Peas, their adaptation in reclaiming exhausted lands, &c.

Sec. 11. There shall be a Committee, whose province it shall be to ascertain the better kinds of Grasses for grazing, hay, &c., and also the best manner of saving hay.

Sec. 12. There shall be a Committee, whose duty it shall be to collect all useful knowledge in relation to Grapes, the process of making wine, &c.

Sec. 13. There shall be a Committee to report on Silk Culture, and the best mode of raising or reeling silk.

Sec. 14. There shall be a Committee to investigate such facts as are connected with the varieties and growth of Potatoes.

Sec. 15. There shall be a Committee, whose duty it shall be to ascertain which of all the varieties of Seeds, indigenous and exotic, are preferable; what seeds should be acclimated; and to report in addition, the easiest and least expensive way of introducing such seeds as deserve experiment.

Sec. 16. There shall be a Committee, who shall be required to report in writing on the most judicious mode of Fencing; and also on the practicability of introducing live fences.

Sec. 17. There shall be a Committee, whose duty it shall be to examine thoroughly the Farming Implements used here and elsewhere; and report in writing their objections to such as are in use, and the practicability of others, which may not be generally known.

Sec. 18. There shall be a Committee, whose duty it shall be to examine the history of the Horse and Mule, which is best adapted to plantation purposes, the best

manner of raising, the diseases to which they are liable, &c.; and make a written report of said examination.

Sec. 19. There shall be a Committee, whose duty it shall be to observe the varieties of Cattle, the best manner of rearing, diseases to which they are subject, &c., and report the result of their observations in writing.

Sec. 20. There shall be a Committee, whose duty it shall be to examine into the breeds of Swine; and to report which is best, together with the best mode of improving, fattening, &c., of this species of live stock.

Sec. 21. There shall be a Committee, whose duty it shall be to communicate in writing all important facts connected with Sheep Husbandry.

Sec. 22. It shall be the duty of the President of the Society to appoint the several Committees; and to fill all vacancies that may occur.

ARTICLE III.

Sec. 1. The Committee on Manures shall award to the member making and hauling the most manure, or by any judicious means reclaiming most exhausted land proportioned to his force, such a premium as the Society may direct.

Sec. 2. There shall be awarded, by the Committee on Cotton, such a premium as the Society may direct for a member making most cotton per acre, and to the average crop.

Sec. 3. There shall be awarded, by the Committee on Corn, such premium as the Society may have directed to the member making most corn, per acre, or to the average crop.

Sec. 4. The same, by the Committee on Wheat, for member making most wheat per acre, or average crop.

Sec. 5. The same, by the Committee on Oats, &c.

Sec. 6. Same, by the Committee on Rye, &c.

Sec. 7. Same, by the Committee on Barley, &c.

Sec. 8. There shall be awarded, by the Committee on Peas, such premium as the Society may have directed to member making most peas per acre, or average crop.

Sec. 9. The Committee on Grasses shall award such premium as the Society may have directed to the member making most hay per acre.

Sec. 10. The Committee on Grapes shall make such awards as the Society may have directed.

Sec. 11. The Committee on Silk, the same.

Sec. 12. The Committee on Fencing, the same.

Sec. 13. The Committee on Potatoes, the same

Sec. 14. The Committee on Horses and Mules, shall make the awards for horses and mules, as the Society may agree and direct.

Sec. 15. The Committee on Cattle, the same.

Sec. 16. The Committee on Swine, the same.

Sec. 17. The Committee on Sheep, the same.

Sec. 18. The Society shall determine upon the amounts of awards at each Anniversary preceding the Anniversary for exhibition.

Sec. 19. The judgments of the Committees, in making their awards, shall be definite and without appeal.

Sec. 20. Whenever two-thirds of the members of this Society may deem it necessary, such majority may alter or amend this Constitution, and the By-laws hereto annexed.

BY-LAWS.

Article 1. The regular stated meetings shall convene at 11 o'clock, A. M.

2. Every motion not in writing, shall be reduced to writing, and seconded before it shall be discussed; but the mover may make explanatory remarks *before* his motion is seconded: he cannot however discuss its merits, till *after* it has been seconded.

3. Every member shall address the chair, standing and uncovered; and no member shall be allowed to speak more than twice on any one subject, without express permission from the Society: the member first up shall have precedence; and in no event is the President to suffer the speaker to be interrupted.

4. In cases of more than ordinary interest, the Society may resolve itself into a committee of the whole, on the requisition of any five members, who shall signify it by standing up; whereupon the President shall nominate a Chairman, who shall preserve order and decorum, and shall have observed the rules of debate, and report progress, when the committee rises.

5. When any resolution has been disposed of by a vote of the Society, it shall not be in order to move that or a

similar resolution, without leave of the Society; but on vote, the Society may reconsider any resolution, whether adopted or not.

6. The President may silence any member out of order, with the right of appeal.

7. Any member guilty of grossly dishonorable conduct, shall be expelled by a vote of two-thirds of the members.

8. All members leaving the District, shall be entitled to honorary membership.

9. Regular officiating Ministers of this District, shall be privileged to be resident members of this Society, free of contribution.

10. Any absentee from this Society, without a good excuse, shall be subject to a fine of fifty cents.

11. No one shall be considered a regular member of the Society, until he shall have signed the Constitution and By-Laws.

Of the Suckers on Corn.

Fonthill, May 2, 1838.

Dear Sir,—I made a trial last summer of retaining the suckers on a part of my corn, which was sufficient to convince me, that nothing is gained by taking them away. From some cause last season, I saw more suckers shooting out from the roots of my manured corn, than I think I had observed before; and at the request of a gentleman, (to whom I had shewn them, with the remark that I did not think that nature would, in relieving itself, do a substantial injury to any plant) I preserved them, and watched their progress to maturity. They grew along with the parent stalks, (and becoming more and more detached as the season advanced, and as they acquired support from the roots which they sent out) tasselled at the same time, and a great many, though not all, bore ears, at the proper places. And I have satisfied myself, at least, from the experiment, that by leaving the suckers, I made as much corn—certainly much more fodder—and saved the labor, in a busy season, of taking them away.

COTTON.

Prognostics of the Weather.

Mr. Editor,—The subjoined prognostics of the weather have been taken from authors of approved experience, and in some instances of much learning. Many, indeed none of their works have as I believe, been republished in this country, for the editions from which I have drawn my information, are English.* This last conviction induces me to send you this article, which I had compiled for my own use. The space allotted prohibits me from giving the causes of the respective prognostics—in each instance, however, the prognostic can be explained by the laws of nature.

I. SIGNS FROM VAPORS OR MISTS.

1. If a white mist in an evening or night spread over a meadow, wherein there is a river, it promises the next day to be bright.

2. When the mist hanging over the lower lands draws towards the hills of a morning, and rolls up their sides until the tops be covered, there will be no rain.

3. In some places, if the mist hangs upon the hills, and drags along the woods, instead of overspreading the lower grounds, in a morning, it will turn to rain.

4. If mists rise in low grounds, and soon vanish, fair weather.

5. If they rise to the hill tops, rain in a day or two. (One of Mr. Worlidge's rules.)

6. A general mist before the sun rises near the full moon; fine weather.

II. FROM CLOUDS.

1. It is a symptom of fair weather when clouds dissolve into *air*: otherwise when they are *collected* out of the air.

2. When heavy rains are about to fall, every cloud rises bigger than the former, and all the clouds are in a growing state.

3. When clouds are fleecy, deep, and dense towards the middle, and very white at the edges, with the sky very bright and blue about them, they are of a frosty

*Lord Bacon, Best, the Shepherd of Banbury, Worlidge and Claridge.

coldness, and will soon fall either in hail, snow, or hasty showers of rain.

4. When clouds breed high in the air in thin white trains, like locks of wool or the tails of horses, there will soon be wind below, and probably a rain with it.

5. When clouds as they come forward seem to diverge from a point in the horizon, a wind may be expected from that quarter, or the opposite.

6. When a general cloudiness covers the sky above, and small black fragments of clouds, like smoke, fly underneath, rain is not far off, and it will probably be lasting.

7. No surer sign of rain than two different currents of clouds, especially if the undermost flies fast before the wind: and if two such appear in hot summer, a thunder storm is gathering.

8. Clouds like large rocks; great showers.

9. If small clouds increase; much rain.

10. If large clouds decrease; fair weather.

11. In summer, when the wind has been South two or three days, and it grows very hot, and clouds rise with white tops, like towers, as if one were on the top of another, joined together with black on the nether side, there will be thunder and rain suddenly.

12. If two such clouds rise one on either hand; rain.

13. Dappled white clouds, (called a mackrel sky) generally predict rain.

14. Small black clouds of a clear evening; undoubted signs of rain.

15. Blue or black clouds near the sun any time of the day, or near the moon by night; signs of rain.

16. Small waterish clouds on the tops of hills; rain.

17. If clouds grow or appear suddenly, the air otherwise free from clouds; tempests at hand, especially if they appear to the South or West.

18. Clouds setting on the tops of mountains; hard weather.

III. DEWS.

Dew plentifully on the grass after a fair day, foretells the next day fair; but if after such a day no dew is on the ground, and no wind stirring, rain may be expected.

IV. FROM SKIES.

1. Between a red evening and grey morning, is commonly a heavy dew or a mist over the ground, but if a red morning succeeds, there is no dew.

2. When a lowering redness spreads too far upwards from the horizon in the morning or evening, rain or winds follow, and often both.

4. When such a redness, together with a raggedness of the clouds, extends towards the zenith in the evening, the wind will be high from the West or South-West, with rain.

4. When the sky in a rainy season is tinged with a sea-green color, when it ought to be blue, the rain will continue and increase.

5. If it is of a deep dead blue, the weather will be showery.

6. A dark thick sky, lasting for sometime, either without sun or rain, always becomes fair, then foul—that is, a clear sky before rain.

V FROM SUN.

1. When the air is hazy, and sun's light fades by degrees, and his orb looks whitish and ill defined; on of the most certain signs of rain.

2. If the rays of the sun breaking through the clouds, irradiate and are visible in the air, rain soon.

3. White at his setting; bad weather.

4. Shorn of his rays; bad weather.

5. Going down into a bank of clouds which lie in the horizon; bad weather.

6. If he rise red and fiery; wind and rain.

7. If he rise cloudy, and clouds decrease; certain fair weather.

VI. FROM MOON.

1. When moon and stars grow dim, with a hazy air and ring or halo around it; rain follows.

2. If moon appear pale and dim, expect rain.

3. If red, a sign of wind.

4. If of its natural color, and the sky clear, fair weather.

5. If the moon is rainy throughout her course, it will clear up at the ensuing change, and the rain will proba-

bly commence in a few days after, and continue; if, on the contrary, the moon has been fair throughout, and it rains at the change, the fair weather will probably be restored about the fourth or fifth day of the moon, and continue as before.

6. If new moon does not appear till the fourth day, a troubled air for the whole month.

7. If the moon, either at her first appearance, or within a few days after, has her lower horn obscure, or dusky, or any wise sullied, it denotes foul weather before the full.

8. If discolored in the middle, storms are to be expected about the full, or about the wane, if her upper horn is affected in like manner.

9. When on her fourth day she appears spotless, her horns unblunted, and neither flat nor quite erect, but betwixt both, it promises fair weather for the greatest part of the month.

10. An erect moon is generally threatening and unfavorable, but particularly denotes wind; though if she appear with short and blunted horns, rain may rather be expected,

VII. FROM WINDS.

1. When the wind veers about uncertainly to several points of the compass, rain is pretty sure to follow.

2. Some have remarked, that if the wind, as it veers about, follows the course of the sun, from the East towards the West, it brings fair weather; if the contrary, foul; but there is no sign of rain more infallible, than a whistling or howling noise of the wind.

3. Wind turning to North-East, continuing there two days, without rain, and not turning South the third day, or not raining the third day, will likely continue North-East for 8 or 9 days fair, and then come South again.

4. If it turn again out of the South to the North-East, with rain, and continue in the North-East two days, without rain, and neither turns South or rains the third day, it is likely to continue North-East two or three months.

5. After a Northerly wind, for the most of two months or more, and then coming South, there are usually three or four fair days at first, and then on the fourth or fifth day comes rain, or else the wind turns North again, and continues dry.

6. If it returns to the South within a day or two, without rain, and turns Northward with rain, and returns to the South in one or two days, as before, two or three times together after this sort, then it is likely to be in the South or South-West two or three months together, as it was in the month before.

7. Fair weather for a week with a Southerly wind, is likely to produce a great drought, if there has been much rain out of the South before. The wind usually turns from the North to South with a quiet wind, without rain; but returns to the North with a strong wind and rain. The strongest wind is, when it turns from South to North by West.

8. If you see a cloud rise against the wind or with wind, when that cloud comes up to you, the wind will blow the same way the cloud came.

9. When the wind varies for a few hours, and afterwards begins to blow constant, it will continue for many days.

10. Whatever wind begins to blow in the morning, usually continues longer than that, which rises in the evening.

11. If the wind be East or North-East in the fore part of the summer, the weather is likely to continue dry; and if Westward towards the end of the summer, then it will also continue dry.

12. If in great rains the winds rise or fall, it signifies the rain will forthwith cease.

13. If the South wind begins for two or three days, the North will suddenly blow after it; but if the North blows for the same number of days, the South will not rise till after the East has blown for some time.

14. A change in the warmth of weather is generally followed by a change of wind.

VIII. METEORS.

When meteors, or the aurora borealis, appear after some warm day, it is generally succeeded by a coldness of the air.

IX. FROM ANIMAL CREATION.

Swallows, when they fly aloft after their prey; a serene sky—when they skim the ground or the water, rain not far off—their appearance a sign of spring set in.

When the notes of the whip-poor-will are heard, spring has set in—when sheep wind up the hills in the morning to their pastures, and feed near the top, an indication of the clearing of clouds, or drizzly weather—dogs grow sleepy and stupid before rain, and by refusing their food and eating grass, show their stomachs out of order—water fowl dive and wash themselves more than ordinarily before rain—flies are particularly troublesome, and seem more hungry than usual—toads are seen crawling across the road or beaten path in the evening—moles work harder than usual, and sometimes come forth; so do worms—ants are observed to stir and bustle about, and then return to their burrows—bees stir not far, and betake themselves to their hives—swine discover uneasiness, as do likewise sheep, cows, &c. all appearing more eager in pasture than usual—birds of all sorts are in action, and more earnest after their prey—fleas bite harder than common—spiders crawl abroad. ON THE CONTRARY,—spiders webs on the trees, or in the air, indicate fair and hot weather—so do bees, when they fly far and come home late—likewise, a more than usual appearance of glow worms by night. If gnats play up and down in the open air, near sunset, they presage heat; if in the shade, warm and mild showers; but if they join in stinging those that pass by them, cold weather and much rain may be expected. In men, frequently, aches, corns and wounds, are more troublesome, either towards rain or frost. The crow cawing and walking alone on the seashore, or on the banks of rivers or pools, presages rain. Birds that change countries at certain seasons, if they come early, show the temper of the weather, according to the country whence they came; as in winter, woodcocks, pigeons, &c., if they come early, show a cold winter.

X. FROM VEGETABLE CREATION.

1. Most vegetables expand their flowers and down in sun-shiny weather, towards the evening; and against rain close them again—as in the down of Dandelion. The rule is, if the flowers are close shut up, it betokens rain; if they are spread abroad, fair weather.

2. All wood, even the hardest and most solid, swells in moist weather.

3. The speedy drying of the earth's surface, is a sign of a Northerly wind and fair weather; and its becoming moist, of a Southerly wind, and rain.

4. When sounds are more plainly heard than usual—rain.

5. If wainscots or walls that used to sweat be drier than usual in the beginning of winter, or the eaves of houses drop more slowly than ordinary, it portends a hard and frosty winter.

6. When there are but few nuts, cold and wet harvests generally follow: when a great show of them, hot, heavy and dry harvests succeed.

7. If the oak bears much mast, it presages a long and hard winter. The same of hops and haws.

XI. FROM RAIN.*

1. Sudden rains never last long: but when the air grows thick by degrees, and the sun, moon and stars shine dimmer and dimmer, it usually rains six hours.

2. If it begins to rain from the South with a high wind, for two or three hours, and the wind falls, but the rain continues, it is likely to rain twelve hours, or more; and does usually rain until a strong North wind clears the air: these long rains seldom hold above twelve hours.

3. If it begins to rain an hour or two before sun rising, it is likely to be fair before noon, and to continue so that day; but if the rain begins an hour or two after sun-rising, it is likely to rain all that day, except the rainbow be seen before it rains.

XII. FROM SEASONS.

1. Generally a moist and cold summer portends a hard winter.

2. A hot and dry summer and autumn, especially if the heat and drought extend far into September, portend an open beginning of winter, and cold to succeed towards the latter part and beginning of spring.

3. A warm and open winter portends a hot and dry summer, for the vapors disperse into the winter showers; whereas cold and frost keep them in, and convey them to the late spring. So saith my Lord Bacon.

*It seems that in any given place, the quantity of rain falling one year with another, has been discovered to be the same, from which fact one might easily anticipate the seasons. This experiment has been tried in not less than thirteen places on the Continent, so as to confirm the rule for forty successive years.

4. A severe autumn denotes a windy winter; a windy winter a rainy spring; a rainy spring a serene summer; a severe summer, a windy autumn; so that the air, in a balance, is seldom debtor to itself; nor do the seasons succeed each other in the same tenor for two years, together. So also saith my Lord Bacon.

5. At the beginning of winter, if the South wind blow and then the North, it is likely to be a cold winter; but if the North wind blow first and then the South, it will be a warm and mild winter.

BARNWELL.

Marl.

Mr. Editor,—In your number for the month of May, you insert an article from the Farmers' Register, on the "Marl of South-Carolina," and its uses as a manure. To excite some interest in the importance of this subject, I beg leave to observe, that marl is found in great abundance in that part of our State which requires it most, and which has a soil peculiarly adapted to it. That marl is found in Barnwell, Colleton, Orangeburg, Charleston, and Sumter Districts, I know to be a fact, and believe it to exist in all that section of the State, called the middle and low country. By manuring with it only once in five or six years, and then putting only a shovel of it in each hill, I have been assured that the land yielded three times as much as ever had been obtained from it, by any other means. One gentleman, who obtained it at his landing on the Ashley river, assured me, that in the imperfect mode of his using it on a part of his field, the produce had been increased 50 per cent. over that of the rest of the same field. But that he afterwards sold the place, and the experiment was at an end. It is peculiarly suited to the flat, sour, poor, sandy soils, of this part of our State, where it is most easily obtained. On the banks of Ashley river, it is so abundant, that it is brought to Charleston, and used for filling up the streets; and yet they who own the fields adjoining, do not employ it as a manure, although required only once in five or six years for that purpose. It is also found on the Savannah, the Edisto,

Cooper River, Santee, and Wateree, but not used any where, that I know of, as a manure.

The fossil shells, and rotten lime stone, found on the Santee, and in some other places, in immense quantities, are also of incalculable value as a manure. The marl is different from this, because it is a mixture of clay and sand, with lime. But the lime made from these shells is stronger, and will go farther as a manure, than marl, because of its greater purity and warmth. I believe the lime thus made, is peculiarly suited to the exhausted, cold *clay* lands; and one gentleman in Sumter district, who had used shell lime on his old exhausted lands, told me that it had rendered them more productive than ever they had been—more productive than the best oak and hickory land, which could be found. Who would not rather manure three acres of land, than clear one acre, even in the common troublesome mode of hauling manure? Lime made from these shells, gives but little trouble, compared with other manures, and old land so manured, affords more profit than the best new lands. I believe that lime is not suited to the light *sandy* lands, which abound in this part of the country, but the rotten lime-stone and shells need not be burnt into lime—they may be only scattered unburnt over the soil, and put into each hill, like the marl. There are numerous instances in which the broken shells, old lime, and rotten lime-stone, have caused an extraordinary increase in the crop. One gentleman told me, than in ploughing an old field, he came upon several old lime kilns, which had probably been burnt 40 or 50 years before, when Indigo was cultivated, and wherever these half burnt shells were turned up and scattered by the plough, the cotton was vastly finer than in the rest of his field. I did not ask him if he had profited by the discovery, and covered the rest of his field with shells also.

Pray sir, let me suggest that the Agricultural Society should offer a liberal prize for three successive years, to the best series of experiments with these articles; in which the use of either marl, lime-stone and shells, or lime, can be proved to be beneficial; and which is best adapted to different soils.

Q.

Remarks by the Editor.

We commend to the notice of our readers, the remarks of our correspondent Q., on the plentiful supply and value of Marl, in our own State, to be had by many, at only the cost of conveyance from its bed, to the point where it is intended to fertilize the soil. If Q. be correct, and we doubt not he is, we have within our own borders, a mine of incalculable wealth; and with ordinary exertion, we can very soon wipe from our 'scutcheon the reproach, of importing the greater part of our provisions. Our correspondent has, in naming rivers, on the banks of which marl, or fossil shells, &c. abound, omitted the Pee Dee. We take the liberty of adding that river to the catalogue, lest those living on, or near its banks, may excuse themselves, while they wonder, others overlook or do not avail themselves, of such valuable, and cheap manure. No observant man; ever crossed Port's or Godfrey's ferry over the Pee Dee, about forty miles above Georgetown, without remarking the mighty mass of fossil shells, &c., yet no man on the Pee Dee, ever (so far as comes within our knowledge) used this manure. The Pee Dee country was once, even without the application of this aid, a fine grain country—a country of *prime* bacon memory—a country happier than 'tis now. We say to the people of Pee Dee, in common with those on our other rivers—use and improve the gifts and advantages, of which nature has been so lavish, and you will soon find arguments against moving West.

On feeding Horses on Pease, to save Blades.

May 10th, 1838.

Mr. Editor,—Agreeably to my promise, you will find below a piece on feeding horses on pease, to save blades. In 1836, I believed that I had not made as many blades, as I thought would serve my horses the year; and I had a fine crop of pease. I fed my horses on pease in the haums at night, and at 12 o'clock, and in the morning, on corn. I gave each horse half a bushel of pease in the haums. My

horses got fat on them, and they did a great deal of work all the time. This piece may benefit the up-country planter, more than the down-country planter, as they have the advantage of marsh, that they can use by the first of May. But if the up-country planters' blades happen to give out by April, he has nothing that he can feed on in place of the blades, but oats, and they do not come in until the middle of June. I have been pursuing the same course with my horses this winter, though I had a plenty of blades, and I intend to continue to do it as long as I am a planter.

Hoping this may benefit some planters, I am yours, respectfully,

COLLETON.

On Making Manure.

May 10th, 1838.

Mr. Editor,—In September, 1837, I had my stable cleaned out. I commenced then to fill it up with leaves, and as soon as I got it full, I cleaned it out, and filled it up again. I continued filling up and cleaning it out, until the first of April. I hauled the manure that I had made in my stable, out to my root potatoes, and I found that I had made twelve hundred bushels of manure, in my stable, in seven months. I stabled six horses every night; and a part of the time they were in the stable in the day, as well as night. The time I lost in gathering the leaves, I have not missed. Now, Mr. Editor, I know that planters are very apt to say, that they have not got time to make manure. I am satisfied myself, that they have time, if they will take it. The up-country planters have less excuse for not making manure, than the down-country planters have, as they have but a very little trouble with their cotton, after it is picked.

COLLETON.

Remarks by the Editor.

Our readers have been some weeks aware, of the destruction of a very large portion of our city by fire. The sympathies of the whole Union, are awakened, and in many parts active, in our behalf—many and noble donations have been made, and are still pouring in from all directions, for the relief of the indigent sufferers—but while the proper authorities have successfully appealed to the benevolence of those who have hearts to “feel another’s woe,” for partial pecuniary aid, be it our task, to point out to the Farmer and Agriculturist, another channel, into which their charities may be made to flow beneficially to themselves, in common with the sufferers, under this calamitous visitation of our city. Those who have lost their all—those who have only been embarrassed by the conflagration—those who have lost their treasure at the moment they thought it most securely and profitably invested—are not all who have suffered, or will suffer much and seriously, in consequence of the great fire. A disaster, never to be forgotten—one, the effects of which, will be felt for very many years to come. It is neither our part or purpose, to trace all the positive, and probable consequences through their various stages—they all end, in personal or pecuniary distress, to every member of this community, except the few, who may be so happy as to be unembarrassed by debt, or narrow income. There is, however, one evil, which we cannot but think must result—great in itself at all times—but in the present and prospective condition of this city for some years, it will be felt as oppressive in the highest degree, and if it prove not the cause of removals, to more favored cities, we shall be happy. We allude to the present high prices of provisions, and the certain advance upon those prices, so soon as we shall commence actively rebuilding the city. Many of our citizens are ruined; many others cannot make available what remains to them, of the wreck of their fortunes; many are more fortunate; but almost all of them, and their dependents, are now mere consumers, possessed of no income, and are likely so to remain a considerable time. Presently, many of our citizens will, as usual, leave us for the summer in pursuit of business or pleasure, but this will produce no relief—

there will be no less competition in our provision market—plenty of work and high wages, will bring in consumers from all quarters, and prices must advance. There is but one preventive—increased production. To this we would direct the attention of our readers—especially those, in the neighborhood of the city. There are many articles of necessity, which we cannot get from abroad if we would, and if our farmers do not increase the production of them, the prices will put them beyond the reach of many, beside the sufferers by the late fire. No farmer, no grower of provisions, ever had before him, greater certainty of ample remuneration for extra exertions. Despite the approaching season, many laborers and mechanics will remain, others will come in, and there cannot fail to be a certain and good market, for every description of provisions. The demand, will equal our greatest efforts at production of roots, fruits, pulse, grain, and meats of every kind. We do most earnestly hope, a comprehensive benevolence will urge every producer to do his utmost, to excel his former self, in growing every article, which enters into the consumption of a city. We hope, no one will wrap about himself the mantle of self-complacency, and fancy he has done enough, because he contributed liberally to the relief fund. It is not right to do so, for no man has done enough, if aught remains undone, which he can do. Though too late for planting generally, it is not too late to manage well, and perhaps make two blades grow, where but one grew before; nor is it too late, to extend many of the operations on a farm. The free gift, is a fund put out to good interest; but 'tis no less a charity, to keep all provisions within reach of the poor and humble citizen, by increase of production; because the laborer receives his hire. Of the two, it is the most commendable charity; one, is limited in its object, and temporary in its operation—the other, is comprehensive and permanent, dispensing its benefits to all alike—to the rich as well as to the poor—and limited in its duration, only by the *necessity*, for extraordinary exertion. The *just man*, desires no more than a fair equivalent for his labor, and he who does most, to establish and perpetuate, so desirable a standard for exchange, of labor or property, between the various classes of society, most deserves to be honored and loved, as a public and private benefactor. We know none, who can so

reasonably aspire to this honorable distinction, as the agriculturist or farmer, while at the same time, he makes no sacrifice of a single interest, peculiarly his own. Living plenteously himself, and contributing greatly more than any other man, to the general content and happiness of the community—who can turn his eyes every where upon a smiling prospect, and with more just, and generous pride, exclaim—this is my work?

We have said; the increase which must soon take place, in the consumption of provisions in this city, will amply remunerate the producer—and we repeat it. But a few weeks hence, and our city will be thronged with visitors, travelers, and temporary residents, as it is wont to be, every autumn, and winter—but in addition to these, several thousand mechanics and laborers—*consumers*, will be attracted hither, by the abundance of work and high wages. It is but rational to infer, a large advance upon present prices of provisions, must be the consequence, unless prevented by an increase in the production, which will keep pace with the demand. We are aware, provisions of almost every kind, can be had from other States of the Union, but there are other articles which cannot be; others, which to be consumed by the poor and middle classes, must be sold at *moderate* rates; others, which to be enjoyed by any class, must be fresh. But if our neighbors could supply all, even our imaginary wants, we are unwilling, such a state of things should prevail. We dislike more, to see our money go out of the State for provisions, than for any thing else; for every dollar so spent, will be as totally lost to us, as is the property, destroyed by the late fire. Advanced as the season is, we hope every planter, every farmer and gardener, will use every means, suggested by enterprise, skill, and industry, to avert the necessity of importing provisions. We hope at least, the high price of labor in this city, will not seduce any one, into the folly of neglecting his farm, for an imaginary, more profitable employment here.

Correction.

Dear Sir,—Looking over your periodical, Vol. ix. No. 4, and pages 181-2; I am represented in the Report of the Committee on Corn, as saying, "This latter admission applies even where in North and South-Carolina the latitude is equal." There is no doubt the copy sent you for publication, might have contained the above remark; and the copyist, in the hurry of business, might well have committed the error. One thing is certain, i. e. *no such sentence* is to be found in the manuscript now in my possession—and I endorse *no such absurdity*.*

Further: In the same Report, page 184, for "the earth banking over the corn," &c., read *baking*, (the word *banking* having stumbled there by accident, and not through design.)†

You will therefore rectify these mistakes, in that manner you may deem best.

Very respectfully, your obed^t. servant,

JON. DAVIS.

Remarking in our last upon Dr. Perrine's petition, we said, he promised us a beautiful Flax from Manilla. We should have said from New Zealand. The printed report and documents were not before us, and the beautiful Manilla cordage had so fastened itself on our mind, that we confounded one with the other, and were unsuspecting of a mistake, till after our number was published.

* He justly conjectures, the error was committed "by the copyist in the hurry of business," as the copy forwarded us for publication, will show. The entire passage, will be found traced in characters so legible, as to preclude the possibility of mistake.—Ed.

† This is evidently the accidental insertion of the letter *n*, making the word *banking*. We feel a pleasure in correcting error, for we are as unwilling as our correspondents can be, to give currency to wrong impressions. It is a rule with us, to let every one express himself in his own way—believing, persons engaged in the same pursuit, will find little difficulty, in understanding each other. Sometimes, typographical errors, will escape the most careful proof-reader—but generally, they are easily detected, and do not destroy the sense, of the passage in which they occur.—Ed.

PART II.

SELECTIONS.

Propagation of Fibrous-Leaved Plants.

"In the House of Representatives, March 8, 1838.

Ordered, That five thousand copies, extra, be printed of the report of the Committee on Agriculture, on the memorial of Dr. Henry Perrine, in relation to the culture of tropical plants, for the use of the members of the House."

The following memorial, concludes the report referred to in the above order. The report by Mr. Deberry occupies 99 pages larger than our own, but we think the conclusion in Dr. Perrine's own language sufficient to make a very strong impression in favor of the enterprise.

"To the honorable the Committee on Agriculture of the House of Representatives of the United States.

WASHINGTON, D. C. Feb. 3, 1838.

The introduction of fibrous-leaved plants into tropical Florida, their propagation throughout the steril soils of all our Southern and Southwestern States, the production of their *fibrous foliage*, and the preparation of their *foliaceous fibres*, by small cultivators and family manufacturers, are topics which have occupied my heart, head, and hands, during the last ten years.

My unshaken opinions of the immense importance of the *endogenous* plants, whose *living leaves* yield *textile fibres*, have been expressed in numerous communications to the Government and to the people of these United States; but as many sheets as remain on the files of the Departments in Washington, and numerous letters, have not yet appeared in the periodicals of agriculture, I now attempt to present a very brief abridgment of the contents of them all, for the consideration of your committee and of Congress. To excite the attention of my readers towards some details of some species of fibrous-leaved plants, I premise a few general statements applicable to the whole.

General Statements.—The fibrous leaved plants are all hardy, productive, perennial plants, which profitably propagate themselves on sandy, stony, and swampy surfaces, in the sun and in the shade. Their fibrous leaves, produced in any soil and at every season of the year. These freshly-cut leaves may be immediately manufactured into excellent paper, so cheaply, that it will become as important an auxiliary to popular education as the printing-press itself. These

living perennial leaves will yield their fibrous contents in the shortest possible time, with the simplest possible preparations, as the foliaceous fibres are extracted from the green leaves by simple scraping only; and immediately after this mechanical separation, these parallel longitudinal fibres are ready for baling and exportation, or for manufacture. These fresh foliaceous fibres have so much individual strength, length, and elasticity, that they may be instantly wrought untwisted, into very cheap forms and fabrics, for which the unspun cortical fibres of hemp and flax are entirely unserviceable. Moreover, these foliaceous fibres are so much cheaper, lighter, stronger, longer, more elastic, and more durable than cortical fibres, that they can be spun into thread, twine, and cordage, and can be woven into webs, muslins, or cloths, finer than cambric and coarser than canvass, which will become superior substitutes for similar manufactures of flax and hemp in the general consumption of mankind. Furthermore, many of said fibrous-leaved plants form excellent hedges for themselves and for other objects of cultivation, and the entire leaves of many species constitute the best materials for the simplest manufactures of the cheapest possible matting, bailing, bagging, and other envelopes of merchandise, for the really domestic manufactures, or farm, family, and female manufactures of hats, bonnets, baskets, and other articles, by an innocent, independent, and rural population. A still more important consideration attending the propagation of fibrous-leaved plants in the poorest soils, will be found in the fact, that, whether the staple desired be fibrous foliage for domestic manufactures, or foliaceous fibres for foreign exports, at least three-fourths of all the requisite labor can be accomplished much more cheaply by horse power than by human power. Moreover, as these perennial plants combine the merits of yielding the greatest possible produce with the least possible labor, in the poorest possible soils, their introduction will be an equivalent to the direct addition of absolute fertility to our hitherto most sterile districts, and of positive wealth to our hitherto poorest population.

Hence proceed my convictions that foliaceous fibres may be more profitably produced in the refuse lands of Carolina and Georgia, than cortical or capsular fibres in the richest sections of Ohio and of Louisiana; that hence, even the ruined fields of the Southern States will yield greater prosperity in the production of foliaceous fibres alone, than was ever obtained from their virgin loams by the cultivation of capsular fibres, notwithstanding cotton at present constitutes a great proportion of the whole exports of the United States.

Hence, also, my belief that, as the narcotic leaves of one native plant of Yucatan (which *did* take its name from the then dependent province of Tabasco) do actually afford an annual exportation of many millions in one staple of the South, so the fibrous leaves of another native plant of Yucatan, (which *may* take its name from the actual exporting port of Sisal,) will more probably afford an annual exportation of ten times as many millions of dollars in another staple of the South; and that this new staple will be still more important than all her old staples combined, not merely for the amount, value, and profit of the product itself, but also for the character of the lands, of the labor, and of the population it will employ.

Hence, also, my opinions that the propagation of fibrous-leaved plants in the actually worthless sands and swamps of the Southern States, will form a still more distinguished era in their agricultural

prosperity than the invention of the cotton gin; that the production of fibrous foliage and foliaceous fibres will create still more beneficial revolutions in the commerce and manufactures of all civilized nations than has yet been effected by the cultivation of the capsular fibres called cotton; and that, therefore, their introduction to the intelligent industry of our free institutions should be effectually favored by the statesmen of our nation, and by the philanthropists of the world.

I have the honor to be, gentlemen, very respectfully, your obedient servant,

HENRY PERRINE.

Explanatory Observations.—Common Flax and common Hemp are obtained from the *bark* of the stems of their respective plants of the same name; hence the generic title of *Cortical fibres*. The substitutes for common flax and hemp, called Grass hemp, Grass flax, &c., are got from the *leaves* of their respective plants of different names; hence the generic phrase of *foliaceous fibres*. As cotton is obtained from a pod or capsule, the generic term *Capsula fibres* embraces it.

The fine cortical fibres called Common Flax, and the coarse cortical fibres called Common Hemp, are both obtained from *dried barks* of a reticulated structure.

The fine foliaceous fibres called tropical flax, and the coarse foliaceous fibres called Sisal hemp, are both obtained from *green leaves* with longitudinal and parallel veins.

The common cortical fibres called flax and hemp, are separated by tedious, tardy, laborious, complicated, and frequently sickly processes.

The common foliaceous fibres, which are superior substitutes for both, are separated by a simple, speedy, and healthy process. The plants which furnish common flax and hemp are annuals, which exhaust the richest soils. The plants which yield the foliaceous substitutes are perennials, and enrich the poorest soils. Finally, the fibrous-leaved plants are principally composed of great masses of leaves alone; and it is a general fact, that the greater the size and the greater the number of leaves of plants, the more they derive their nourishment from the atmosphere, and the less do they depend on the earth.

H. P.

Fibrous-leaved Plants.—All flowering plants are divided, by botanists, into two great classes, called Monocotyledons and Dicotyledons, from peculiar characters of their *seeds*; or Endogens or Exogens, from peculiar characters of their *stems*; and they might be called by equally significant names from the peculiar character of their *leaves*. The stems of Endogenous plants are properly *stalks*, cylindrical and undivided; the stems of Exogenous plants are properly *trunks*, conical and branched. A *section* of a *stalk* exhibits a homogeneous surface of porous materials, softest at the centre, hardest at the circumference, and *without bark*. If there be any appearance of a proper bark, it is made by the united bases of the adherent leaves, e. g. a Palm. A *section* of a *trunk* exhibits concentric circles of *bark* and wood, hardest at the heart, softest at the circumference, and with medullary rays from the central pith to the young external wood: e. g. an Oak. Hence plants of the first class may be at once known by the *absence of bark* from their *stalks*; and plants of the second class are always known by the *presence of bark* on their *trunks*,

Of Endogenous plants, the leaves have mostly *parallel veins*, and are generally *adherent to the stalk*. Examples: Indian Corn, Lily, Flag, Flax-lily, Bear-grass, Palmetto, Spanish bayonet. Pine-apples.

Of Exogenous plants, the leaves have mostly *branching and reticulated veins*, always *articulated* with the stem, and hence spontaneously falling. Examples: Chesnut, Currant, Flax and Hemp.

The Endogenous differ from the Exogenous plants, in their geographical distribution, as well as in their structure.

In the Equinoctial regions, the Endogenous plants form about 17 per cent. of the flowering plants. In the Variable zone, between 36 and 52, about 25 per cent.; and towards the Polar circles, about 33 per cent. The most important substances which they produce, are *farinaceous* and *saccharine* materials, and *foliaceous fibres*. The smaller grasses which yield wheat, &c. in terminal heads of grain: the large grasses which yields maize in lateral ears of corn; and the equally large grass which yields sugar in the juice of its stalk or cane, are all well known in the world: but those Endogenous plants whose *green living leaves* yield valuable *foliaceous fibres*, are not well known in even scientific society. It hence becomes necessary to give a brief outline of some leading Groups of Endogenous plants, in order to facilitate the communication of intelligence relative to individual species of fibrous-leaved plants, to be found under different tribes or families of plants in each group. Endeavoring to avoid, as much as possible, the use of technical terms, the few Botanical words necessarily employed will be defined and explained.

Groups of Endogenous Plants.—Examining the flower of a common Lily, we discover that this flower is composed of six petals, or has six divisions, but that three alternate petals or divisions resemble each other more than they resemble the intermediate petals; and hence the flower is said to be *complete* and *formed* upon a *ternary plan*. Examining the flower of a Mexican Lily (*Amaryllis reginæ*) the same formation is discovered. Both the common Lily and the Mexican Lily have six petalled flowers; they both also have six threads called *stamens*, growing out of the petals, and one central thread or column, called a Pistil. They have other points of resemblance, and yet there is one notable point of difference; that is in the *non-adherence* of the flower of the Common Lily to the *ovary* or body, from which the central Pistil rises, and in the *adhesion* of the Flower of the Mexican Lily to its ovary, or future fruit. In the former case, Botanists say that the *Ovary* is *superior*; and in the latter, that the *Ovary* is *inferior*. Hence in speaking of the *flower* itself, the epithets are reversed; that is, in the Common Lily, the *flower* is *inferior*; and in the Mexican Lily, the *flower* is *superior*; and the technical terms are *Hypogynous*, for the *inferior*; and *Epigynous*, for the *superior*. The same ideas, however, would be more plainly expressed by the epithets of *Non-adhering* and of *Adhering* flowers.

Hence we can embrace a *vast group* of Endogenous plants under the head of *Liliaceous flowers*, formed upon a ternary plan; and we can divide them into two *sub-groups*, by the *non-adhesion*, and by the *adhesion* of the flowers to the *ovary*, or infant fruit.

There is, however, another important section of Endogenous plants, whose flowers have characters rather difficult to be generalized in common language, especially as the species are not familiar to Americans. Some general ideas of them may be formed, by stating that the flowers are covered by a husk, or shuck, called a *Spathe*, and are

arranged along a stock called a Spadix; and that hence they may be embraced under the head of *Spadicious flowers*; and these may be divided into three sub-sections, by the veins of their leaves running from the base to the apex in one division, and from the midrib to the margin in the other; and by the palmate leaves in the third.

LILIACEOUS FLOWERS.

Sub-group A.—Non-adherent.—Hypogynosæ.—§ 1. Alliance Lilliales.—Leaves frequently succulent or coriaceous, with parallel longitudinal veins from base to apex.

Sub-group B.—Adherent.—Epigynosæ.—§ 1. Alliance Narcissales.—Leaves smooth or hairy, with their parallel veins running longitudinally from base to apex.

§ 2. Bromeliales.—Leaves rigid, channelled, dry or fleshy, often with a scurfy surface, and spiny at the point or edges.

SPADICEOUS FLOWERS.

§ 1. Pandales.—Leaves rigid, long linear lanceolate, embracing the stem, spirally overlapping, margins mostly spiny.

§ 2. Bananales.—Leaves with their parallel veins diverging from the midrib to the margin.

§ 3. Palmales.—Leaves clustered terminal, pinnate, or fanform, very large, plaited while young.

LILIACEOUS FLOWERS.—HYPOGYNOUS SUB-GROUP.

Lily tribe, or Liliaceæ.—The plants of this tribe bear a fruit which is three-celled, many-seeded, dry or succulent, and capsular; their roots are fibrous or fasciculate. Stem: none, except a bulb or tuber, and is creeping, erect or arborescent. The leaves are either sessile, or with a narrow leafy petiole, shaped like a lance or sword.

LILIACEOUS FLOWERS.—EPIGYNOUS SUB-GROUP.

Amaryllis tribe, or Amaryllidaceæ.—The plants of this tribe bear a fruit which is three-celled, many-seeded, three-valved, capsular, opening in the cells. They are generally bulbous, sometimes fibrous-rooted, occasionally with a tall flower-stalk; their leaves have generally the shape of a sword.

Pine-Apple tribe, or Bromeliaceæ.—The plants of this tribe bear a fruit which is three-celled, many-seeded, capsular, or succulent: the roots are fasciculate, fibrous or tuberous stems none at all, or very short, covered with leaves which are spiny at the edge or point. Flower-stalk occasionally very tall; plants perish immediately after flowering, and suckers spring up from the roots.

GENERAL REMARKS.

By comparing the characters of the Lily tribe and of the Amaryllis tribe, it will be seen that the only notable difference exists in the position of the flower. They agree in the shape and structure of their leaves, being sword or lance-shaped, and with the veins running parallelly and longitudinally from the base to the apex. In these characters of vegetation the Pine-apple tribe resembles both.

In the Flag tribe, the leaves overlap each other parallelly, as in the Iris. The blue flag (*Iris versicolor*) is often called the Snake Lily; and the Amaryllis Equestris, the Barbadoes Lily.

SPADICEOUS FLOWERS.

§ 1. *Screw-pine tribe, or Pandanaceæ.*—The plants of this tribe have generally arborescent stems, usually sending down aerial roots.

The leaves are imbricated spirally around the axes, so as to give the stems a sort of cork-screw appearance, before the trace of the leaves is worn away. Hence the aspect of the foliage of these plants being that of gigantic Pine-apple plants; but with a spiral arrangement of their large leaves, they are called the Screw-pine tribe.

§ 2. *Banana tribe, or Musaceæ*.—Large herbaceous plants, mostly tropical; stemless, or without a proper stalk; petioles, or footstalk of the leaves, long, broad, and sheathing, and thus forming a cylindrical or conical column, often very large. The convoluted lamellæ which compose these columns have parallel longitudinal fibres, of which the central portion extends even into the midrib of the gigantic leaves; which are themselves composed of *thin laminæ*, with *fine parallel veins diverging* from the midrib to the margin.

§ 3. *Palm tribe, or Palmæ*.—These plants are arborescent, with sub-cylindrical stems, growing by the constant development of one central terminal bud; the surface of the stem is occasionally rough, with the dilated half-sheathing bases of the leaves or their scars.

§ 1. *Geography of the Lily tribe, and general remarks*.—The species of this tribe are scattered widely over the world, but they are much more abundant in the temperate zone than between the tropics, where they chiefly exist in an arborescent state. Aloes are found mostly in the south of Africa; yet one species is a native of the West Indies, and two or three more of Arabia and the East. Dracænas, the most gigantic of the order, attain their largest size in the Canary islands. A D. Draco is described to be from 70 to 75 feet high, and from 15 or 16 feet in diameter at the base. In the East Indies, Liliaceous plants are rare. In New Holland, they form a distinctly marked feature of the vegetation. In one section of them, called the Aloinæ, the stem is usually developed, and sometimes arborescent, and the leaves are generally succulent. In another section, called Asparagæ, the leaves in the stemless species are often coriaceous and permanent. In countries where the woody and prickly species of Aloes naturally abound, they are often planted as hedges; some species so much resemble certain species of Agave, and of Bromelia, that they are likely confounded by travellers in their descriptions of the uses of these plants. Hence, *Karatas* is a vague name for the species of prickly-leaved plants, and for hedges, whether appertaining to the genus of Aloes, of Agave, or of Bromelia. Under the Asparagus section is arranged the genus Yucca, of which five species are indigenous to the worst soils of the United States, from the Potomac to the Mississippi, and of which are two species, now naturalized in the Northern States, especially the Yucca filamentosa, whose synonymes are Bear-grass, Silk grass, Eves-thread, &c.

The Phormiumtenax, or New Zealand Flax Lily, has flourished several years in the open air of Charleston, South-Carolina, and is now notoriously acclimated in the south of France, but has become an important staple of agriculture and of manufactures for that kingdom. Although some species of this tribe afford valuable food, and others valuable medicines, yet the most important plants are those whose green living leaves yield valuable foliaceous fibres, by simple scraping only, under the names of Yucca filamentosa, and of Phormiumtenax. I shall give a brief account of these superior substitutes for common flax and hemp.

§ 2. *Geography of the Pine-apple tribe, and general remarks.*—All the species of this tribe are natives of the continents and islands of America, whence they have emigrated eastward in such numbers that they constitute a part of the present Flora of the old world. Since the sixteenth century, species of Agave have become wild throughout all the south of Europe, the north of Africa, and the adjacent islands; and whenever introduced, they have naturalized themselves, have propagated themselves, and have taken possession of the worst soils, like actual natives. They are capable of existing a long time in dry hot air alone, without contact with the earth. They are all adapted to propagate themselves in the most arid sandy or stony soils. The name of Agave Virginia, indicates that one species is indigenous to the United States. Some species of Bromelia prefer to propagate themselves in the shade of trees, and form the undergrowth of forests. Besides the delicious pine-apple, which has travelled from Peru to the West India islands, and thence to the East Indies, several species of true Bromelia have also edible fruit. Both the *thick and fleshy* leaved Agaves, and the *thin and rigid* leaved Bromelias, with thorns or prickles on their edges or at their points, make excellent hedges. Species of Agave are thus used for hedges in Italy, Spain, Portugal, and even in Switzerland. But the most important properties of several species of Agave, and of Bromelia, are found in their *fibrous leaves*; by *simple scraping only*, *foliaceous fibres* are obtained from the *living green leaves*, which are superior substitutes for common hemp and common flax. Under the names of Agave Sisalana, and Bromelia Pita, I shall give a brief account of the substitutes for hemp and for flax, being introduced by me from the Mexican peninsula of Yucatan to the American peninsula of Florida. The *coarse foliaceous fibres* of the Agave, are known in our markets by the names of Sisal Hemp and Grass Hemp. The fine foliaceous fibres of the Bromelia, are known by the English synonyms of Grass, Flax, Vegetable Silk, &c.

§ 3. *Geography of the Screw-pine tribe, and general remarks.*—The species of this tribe are very abundant in the Mascarene islands, especially in the Isle of France, where they are found *covering the sandy plains*. They have peculiar means to nourish and sustain themselves in the most arid soils, as nature has furnished them with strong aerial roots, which descend from the stem, and bury themselves in the sandy or stony surfaces, on which they propagate themselves. These roots serve, at the same time, as so many stays or braces, to prevent the stems being blown about by the unruly winds, and as so many mouths or tubes, to suck or pump up nutriment from the unwilling soil. They also abound on the Coralline islands of the Pacific ocean, where the surface is so bare that few other plants will grow, except the Cocoa-nut palm. They are very common in the Indian archipelago, and in most tropical islands of the Old World; but are rare in America. The *Pandanus odoratissimus* grows in *all soils and situations*, in the warmest parts of Asia, and is there much employed for hedges. Its flowers are *fragrant and edible*; the leaves, 3 to 5 feet long, are composed of longitudinal tough useful fibres; the roots also are composed of tough useful fibres, and yet are so soft and spongy, as to serve for corks. The fruit of several species is an article of food; the branches, being of a soft spongy nature, and juicy, when cut into small pieces serve for fodder for cattle. But the fibrous leaves themselves are the most important products of the species of

Pandanus; many of them are beautifully white and glossy, and are handsomely wrought into elegant mats and baskets of a great variety of patterns and colors. The entire leaves hence furnish the cheapest materials, for the simplest manufactures of bailing and bagging, mats and baskets, hats and bonnets; and the propagation therefore of these plants, on the most arid soils, will not merely cover the most sterile districts with a dense population of small cultivators, but will also augment the number of an innocent, independent and rural people, by supplying their families, their farms, and their females, with really domestic manufactures.

§ 4, *Geography of the Banana tribe, and general remarks.*—The species are natives of the Tropics, of the Cape of Good Hope, of the islands of its southeast coast, and of Japan; and different species of *Bananas* are cultivated up to 33 or 34 degrees north latitude in Europe; and one species, with germinable seeds, is now acclimated in Louisiana. In their habits of growth, they generally prefer humid or marshy soils; several prefer shaded gullies and moist woods, and others the wettest portions of heavy forests, while one also grows on the highest mountains. The species of *Musa*, which bear the great clusters of fruits called Bananas and Plantains, have been pronounced the greatest blessing of God to man. The object of the present brief notice is to attract attention to one or more species not valuable for their fruit, nor yet for their gigantic leaves, with parallel veins diverging from the midrib to the margin; but it is to invite special attention to the enormous petioles or footstalks, of which their columnar stems are composed, both on account of the foliaceous fibres they yield, and their value for domestic manufactures.

§ 5. *Geography of the Palm tribe, and general remarks.*—The species of this noble family of plants extend from the equator in the southern hemisphere as far as 38° in New Zealand, and in the northern hemisphere, as far as 34° 36' in the United States, and even to 43°, and 44° in Europe. Their habits of growth are as diversified as are their products. Some species scarcely extend beyond peculiar limits in their native country; other species have been dispersed over many lands, both by accident and by design; some spring up singly, or in clusters, over arid plains; some ascend the mountains, several occupy the shores and islets of the ocean, others love the humid banks of rivulets and streams; and others delight in miry marshes and swampy forests. It is probable that the number of species thus scattered over the face of nature will be found to amount to one thousand or more; although not more than 175 are actually described, of which 119 are American, 42 Indian, and 14 African species. The properties and products of the Palms are of the most essential and most diversified utility to man in all countries, where they follow or precede his footsteps. They yield flour and yeast, sugar and wine, oil and vinegar, milk and butter, wax and resins, fruits and medicines utensils and weapons, thread and cordage, paper and clothing, furniture and habitations. The present remarks are however intended solely to invite public attention towards the *Ticu Palm* of marshy spots in Brazil, to the *Morriche Palm* of the inundated delta of the *Oronoco*; and to the *Gomuty Palm* of marshy forests, in the Indies, especially in reference to the value of their leaves and fibres for textile materials and domestic manufactures.

SISAL HEMP.—AGAVE SISALANA.—PINE-APPLE TRIBE.

1. There are *many species* of Agave and of analogous fleshy-leaved plants, *natives* of the New World, besides the Agave Americana, and other species, naturalized in the Old World, which can readily be distinguished, either by the external characters of their leaves alone, or by still more important differences in their interior organization.

2. There are numerous species of Agave whose *green living leaves* yield valuable *foliaceous fibres*, differing both in quantity and quality; but the species which are cultivated in Yucatan for those fibres alone are the most valuable fibrous-leaved species whose history is accurately known. 3. There are one or more species which are cultivated on the Mexican mountains solely for the inebriating juice of their undeveloped stalks; but the leaves of these species do not yield valuable fibres either in quantity or quality, which would justify their cultivation for their foliaceous fibres alone. 4. The Agave Americana of Europe is not the same species as the FIBROUS-LEAVED *Henequens* of the hot low lands of Yucatan; nor is it yet the same species as the JUICY-STEMMED *Maguyes* of the cool highlands of Mexico; nor does it even belong to the same genus as the *pita-leaved Ixtla* of the shady forests of Goazacoalcos; and hence that the contradictory Humboldt and his credulous copyists have perpetrated pernicious errors in attributing the *three* different Mexican substitutes for the Vine, the Hemp, and the Flax of Europe, to *one* distinct species of Agave, itself naturalized in Europe during centuries,

4. Although the flattering illusion of a wonderful combination of opposite properties in one and the same plant is now necessarily destroyed, yet the best species of the juicy stemmed Agaves, and of the coarse fibrous-leaved Agaves, and of the fine fibrous-leaved Bromelis, all merit an immediate introduction and extensive propagation in Florida, and a gradual acclimation throughout the worst arid soils, of all our Southern States.

5. There are wild species of fibrous-leaved Agaves indigenous to Florida; and the Mexican species sent there by H. Perrine in 1833 have become domesticated and propagate themselves. One dry coral rock, called *Bamboo*, takes its misnomer from the tall flower-stalks of the Florida Agaves which cover it. 6. There are various other species, and probably various valuable varieties of different species and genera of fibrous-leaved plants existing on different portions of the American continent and islands, which merit introduction to an acclimating nursery in tropical Florida, in order to determine on a small scale the peculiar and relative value of their foliaceous fibres. 7. The Agave Virginica is indigenous to our worst soils, in the Southern States, as far as the Potomac. Several species, under the vague name of Agave Americana have become wild on the worst soils of southern Europe, as high as Switzerland. In Spain under the name of Pita, they speak of one species whose *succulent leaves* are eaten by cattle, and under the name of Cabuya; of one other species, whose *fibrous leaves* are used for cordage. The former is probably a Maguey de Pulque of Mexico; the latter a Henequen de Sosquil of Yucatan. Hence if the Agave Virginica itself does not contain valuable fibres in its leaves, there is every human probability that the fibrous leaved species of Yucatan may be gradually acclimated as far north as Maryland; and the juicy-stemmed species of the Mexican highlands may gradually extend into even the Alegany mountains.

The peninsula of Yucatan embraces the worst soils of any province

of Mexico. It is principally composed of arid, cavernous limestone, and has not a river, brook, or spring within several hundred miles of the coast, beginning at Campeachy and running thence north to Sisal, east to Cape Catoche, and south down to Bacalar. Nature has however, compensated the aridity of both soil and air by bestowing upon the indolent inhabitants very valuable plants, principally composed of large succulent leaves, or long fleshy and fibrous leaves, which propagate themselves both on the stony surfaces of the interior and the sandy shores of the coast. Those species and varieties whose living leaves yield superior substitutes for hemp are the natives under the generic name of Henequen. As the Spanish *j* has the sound of our *h*, the white or Spanish Mexicans frequently write the common name thus, Jenequen for Henequen. The coarse foliaceous fibres obtained from the green leaves of all the species are called by the generic name of Sosquil. The equivalent to this Mexican term for coarse foliaceous fibrous is generally *Grass-hemp* in the mouth of an American. There are two varieties of cultivated *Henequen*, called *Yash-qui* and *Sacqui* by the natives; or the Greenish Henequen and the Whitish Henequen in the translation of the Spaniards. Both these are embraced by me under the denomination of *Agave Sisalana*. Taking the *Yash-qui* for the type, its generic characters are as follows: Corol bell-form; segments converging and longer than the tube. Filaments very long, awl-shaped, and inserted into the base of the segments at or near the top of the tube. Style not half as long as the stamens, and is even very little elevated above the segments of the corol when its three-lobed stigma receives the pollen from the bursting anthers. The corol stamens, and style continue all permanent on the germ; and the germ itself becomes a cylindrical capsule, which opening at the top in three divisions, even splits the dried tube of the corol. Its specific character is sufficiently denoted by the smoothness of the edges of the leaves of the *Yashqui*. Indeed, when very young, it greatly resembles our indigenous *Petre*, or *Yucca gloriosa* of the Southern States. The leaves will average three feet long yet they are frequently five feet long, with a thorn at the point. I once took the exact dimensions of a leaf five feet long. At fifteen inches from the point it was four inches wide and one-eighth of an inch thick; at thirty inches it was five inches wide and two-eighths of an inch thick; at forty-five inches again only four inches wide, but three-eighths of an inch thick; and at radical end merely three inches wide yet four-eighths of an inch thick. It will grow in any arid soil or situation and propagate itself without cultivation. When the young plants are placed at six feet apart, the mature plants, after the second or third year, will produce, at the very least, 1,200 pounds of Sisal Hemp per acre. If it be the *Sacqui*, it will produce double that quantity. Two or three files of the lowest leaves may be cut two or three times yearly from the same plant, at any season, for several years, and forever from the shoots which supply its place. From the letter of Don Santiago Mendez, Vice Governor of Yucatan, sufficient data can be obtained to calculate the profit of a plantation of Sisal Hemp.* The paper of the Henequen Plant Company of

*"CAMPEACHY, February 9, 1834.

MY ESTEEMED FRIEND: In order to furnish you the requested intelligence concerning the Henequen, I will limit myself to that variety called *Sacqui*, which is the most cultivated; and therefore I say:

1st, that it produces itself and flourishes on the stony lands of the interior, as

Yucatan calculates the expenses and profits of 36,000 plants as follows: Total expense at the end of three years \$4,541; total produce of the third year \$9,015; divisible gains \$4,479.

Admitting, however, but 1,200 pounds of Sisil Hemp per acre. The Indians of Yucatan scrape it out on shares, *i. e.* they cut and scrape the leaves in their rude way, and receive one-half of the fibres for their labor. It is to be inferred that in the United States the fibres could be separated as cheaply by labor-saving machinery or management. Six hundred pounds of Sisal Hemp per acre would be the nett proceeds of the proprietor; and I venture to say that, at this rate it will yield 100 per cent. more nett interest on the capital and labor employed than is now yielded by sugar or cotton.

well as on the sandy shores of the coast; 2d, that the plants are placed from 4 to 2 Spanish yards apart, according to the lands; 3d, that the shoots, (children,) being one Spanish yard high, when transplanted, they yield at two years afterwards; 4th, that twice or thrice yearly, there may be cut from said plants, two or three rows of leaves, on any day of the year; 5th, that the number of leaves cut each year, is not less than 25 nor more than 100 on each plant; 6th, that to obtain one pound of fibres, from 8 to 24 leaves are necessary, the most productive being those of the fourth annual cutting; 7th, that the cultivated plant lasts from 10 to 15 years; 8th, that every two years it throws out from its roots, from 5 to 10 shoots, (children,) in a state to be transplanted. Furthermore, when the plant is aged, it forms a flower-stalk, from 8 to 10 Spanish yards high, whose superior extremity becomes covered with innumerable miniature plants, (Henequencitos.)

I remain your affectionate friend, &c.

SANTIAGO MENDEZ.

SEÑOR DOCTOR HENRIQUE PERRINE."

"CAMPEACHY, January 8, 1835.

SIR: Our Grass Jenequen, or Sosquil, is principally used by all the Mexican vessels, especially for cables, in which they place all their confidence. The port of Vera Cruze is dangerous, and a cable made of this grass is considered by all the captains to be far preferable to the best hemp or chain cable; being light and springy, there is no strain on the vessel, and they confide so much in them, that the Campeachy vessels instead of seeking shelter under the castle of San Juan de Ulua, that they prefer dropping their anchor ahead of all the foreign vessels, so as to keep themselves clear of being felled off by them. A Campeachy cable is allowed to last out two of hemp cables. The short duration of hemp in this bay is occasioned by the heat of the water, which rots the hemp in a very short time. A grass cable as soon as it gets a good stretching and use, ought to be given a new coat of tar, which is considered absolutely necessary, and preserves it from rotting. The *Jenequen* is also used for warps; being light it swims and of course is not so liable to be entangled as the hemp is; and it is almost incredible how they *give*, which is a great help in towing or wharving up a river. Running rigging is also much used, especially for vessels, sheets and halvards. For a winter's coast it is not so much calculated, as the cold makes it stiff and very impliable for the hands. This is the greatest objection the other nations can have to it: another objection is, that when once it is worn out, it is good for nothing, (except paper,) and the hemp is at last made up in oakum.

However, the lightness of the grass makes it come very low, and the great difference in price is no doubt a great object. When the ropes get a little used, it is always well that a slight coat of tar and tallow be given; it preserves them from getting mildewed and prevents rotting. For small lofty sails no doubt the Jenequen is preferable, being so very light and pliable; for standing rigging it will not answer by any means, as it gives too much.

I should think it would be excellent for making paper, I have also seen made here such stuff as is used for musquito-bars, which no doubt is very durable.

I am, respectfully, your most obedient servant,

JNO. L. MCGREGOR.

TO HENRY PERRINE, Esq."

OTHER FIBROUS-LEAVED PLANTS OF THE PINE-APPLE TRIBE.

Pita de Guataca.—This plant grows wild in the greatest abundance, in the vicinity of the village of Guataca, in the province of Carthagena, where its leaves attain a length of 9 to 12 feet, and a thickness of 3 to 4 inches. These leaves are linear-lanceolate with recurved spines along the margins. The fruit is a triangular one celled capsule, with few seeds. The leaves exceed in length those of the *Bromelia penguin*, and of the *Bromelia karatas*, both common plants in the West Indies; but in length and strength of foliaceous fibres, the *Pita de Guataca* excels both. It was introduced into Jamaica in 1831, with the view of propagating it in the dry sandy savannahs of that island, which are at present uncultivated and unproductive. This fibrous substitute for hemp is preferred to common hemp, on account of its superiority in lightness, strength and durability, especially under the influence of water or moisture. In point of *affal*, compared with common hemp, the advantage is enormous in favor of the *Pita* hemp. It has been calculated that three tons of *Pita*, will make as much cordage, sail, or other cloth, as fifteen tons undressed hemp. In 1834 the quantity of hemp and flax, from Russia into England alone, was estimated at 25,000 tons; and that by substituting *Pita*, at least 74,000 acres of the actual wastes of the West India colonies would be put under lucrative culture. As to the difference in weight, between equal bulks of *Pita* and common Hemp, Dr. Hamilton has ascertained it to be one-sixth in favor of the *Pita*; and hence, taking the weight of the standing and running rigging of a man-of-war made of hemp at twelve tons, a reduction of two tons in the top weight, would be effected by the substitution of *Pita*. Under the operation of the emancipating laws in the British West Indies, the white planters will be forced to propagate fibrous leaved-plants on their poorest soils, especially because in their preparation for market, horse power can be substituted more profitably and certainly for human power. Dr. Hamilton supposes this *Pita de Guataca* to belong to a genus between *Guzmannia* and *Pourrettia*. He speaks also of another plant called *Pita de Tolu*, which grows in large quantities at Tolu, probably a species of *Agave*, and yields coarser, browner, or inferior fibres.

By the "*Maison Rustique*," published in Paris, 1836, it appears that attention is directed to the American species of *Agave*, naturalized in the south of France, and in the north of Africa. Porteau says, "Mons. Pavy has recently introduced, under the name of *Veg-etable Silk*, a very beautiful filamentous substance, which he declares to be of the *Agave*, and to come from the territory of Algiers." He adds, that the cordage made of this silky fibre is very strong, and resists humidity perfectly; and that the same remarks apply to many other objects manufactured of it. Under date of 2d January, 1833, Wm. Shaler, the consul general at Havana, wrote to H. Perrine at Campeachy as follows: "I have many years since been aware of the species of *Aloes* which you are seeking to introduce into Florida as a material of manufactures, which I pointed out in a letter to Mr. Poinsett, before his departure for Mexico. I have found it growing abundantly on the arid lands of California, and subsequently in Algiers; and it seems to me that it must flourish throughout Florida, and become a valuable item in its exports." Shall the English and French alone produce foliaceous fibres on their poorest soils?

(To be continued.)

H. P.

Progress of Horticulture in America.

[FROM THE NEW-ENGLAND FARMER.]

Perhaps there is no art that keeps pace so uniformly with the march of improvement and polite refinement as Horticulture, in all its various branches. I need not refer to what history has in so many cases informed the intelligent reader of, the high estimation in which it was held by the Greeks and Romans. In the time of the Cæsars, the Hanging Gardens are recorded as a fine specimen of the perfection of the art in those days. But the point now in question is the utility of gardening and Horticulture at the present period, and the probable bearing it has on an enlightened people who cherish it as a useful and interesting subject to all classes, and promoting, as a natural consequence, their moral rectitude,

To speak of the utility of Horticulture in this country I need only refer to the encouragement it has received from most respectable people in the various parts of the Northern States, particularly in the vicinity of Boston, New York, and Philadelphia. This encouragement has not been confined altogether to any particular branch, but whatever belongs to it has been liberally patronized and supported in the most honorable manner. In the vicinity of Boston the grape has been grown to better perfection under glass than in any other northern climate in spite of the many difficulties to which it is subject. The fact, that many fine varieties of fruits and especially the pears have been introduced from other states; and indeed from Europe many select kinds have found their way into the collections of connoisseurs, who have with the most liberal disposition distributed them for the public utility, fully testifies the interest that has been taken to introduce choice and rare fruits. Delicacy will not allow me in this place to do public justice, to those whom my acquaintance fully satisfies me are in every way deserving the gratitude of an enlightened community. The introduction of rare flowers has also been in every way encouraged by private collections and public institutions and continued in a spirited manner to the credit of those who have so liberally contributed to that pleasing branch of Horticulture.

In reviewing the many Horticultural societies, which have of late years been formed in different sections of the States, too much cannot be said in favor of their great utility. I know not of any social communities that are more really useful than these, as the idea of a Horticultural society does not altogether rest on a certain denomination or sect of people, but extends to all classes, its sole object being to disseminate the various fruits of the earth into all those countries which may be congenial to their natural qualities; and in many cases, artificial means are resorted to for their accommodation. Hence Horticultural societies form a connected chain of social enterprise and real utility. The best criterion of the propriety of such institutions is, the respectability of the leading members interested in their welfare; these will be found in this case of the very first order, as men of learning, taste, and those holding respectable offices of public trust. The interest taken by those gentlemen in the respective departments of those societies, has proved to be of much public benefit and utility. Being connected with similar societies in Europe and various other parts of the world of so extensive a nature and standing, that it has

brought about the means of establishing a mutual correspondence and exchange of all kinds of fruits, flowers, vegetables, and other matters connected with Horticulture. This mutual intercourse has been fully appreciated, by the many choice fruits and vegetables which have been introduced into many parts of the States. Most of the fine pears now in use owe their origin to France; Flanders, Germany, and the Netherlands have been the principal source from whence most excellent vegetables have been imported and from England many varieties of fruits have been brought into this country through the medium of the London Horticultural Society, which has much intercourse I understand with its sister institutions in New York, Boston, &c.

Notices of Culinary Vegetables, new or recently introduced worthy of general cultivation, in private Gardens or for the Market. By the Editor.

[FROM THE MAGAZINE OF HORTICULTURE.]

We have constantly endeavored, in our previous volumes, to impress upon the mind of the marketman the importance of the cultivation of the most superior varieties of vegetables for the market; and not only to marketmen, but to gentlemen, farmers, and all who produce their own vegetables for their table. We have, during this time, presented our readers with several articles from the pens of practical men, and we believe have been duly appreciated by many; indeed, we have known some instances of our remarks having been the cause of great improvement in this department of gardening. We shall continue to offer all the information which we can procure, and we hope that our efforts will be the means of awakening still greater attention on this important subject. This article, which we shall annually introduce, will contain all that we can collect in relation to new and superior varieties of vegetables, and we shall feel gratified if, by our labors, we add one superior variety every season to our already cultivated kinds, or displace an old sort by the introduction, into general growth, of one of more excellent merits.

The proper cultivation of vegetables, as well as fruits or flowers, can only be understood by some theoretical knowledge, aided by constant practice: too many are apt to imagine that the growth of vegetables is so simple in its nature, that the most uninformed on all subjects upon gardening, even those who can scarcely tell a cabbage from a cauliflower, can cultivate a vegetable garden. But let not any be led away with this idea. It is true, that if the seed of a plant is good, when committed to the earth, under ordinary circumstances it will grow, and with even moderate attention it will arrive at some degree of perfection. This, however, is not understanding the cultivation of vegetables. The system of cropping—the application of proper manures—the choice of seed—the merits of a variety—and, finally the routine of cultivation, are particulars which can only be gathered by experience, assisted by some knowledge of soils and manures, and of the vegetable system. This misunderstanding of what constitutes the art of culture has led many into errors, which have been continued from prejudice, until it is almost impossible for them to grope their way out. Mr. Bridgeman of New York, in his *Gardener's Assistant*, has done much to remove some of the errors

and prejudices of cultivators, and we hope that what we shall contribute will aid in furtherance of the same object. But we leave this degression, into which we have been led by a consideration of the subject, and turn to our remarks upon the new or more recent varieties of vegetables introduced.

Carrot.—The old long Orange has been so long and almost exclusively cultivated in this country, that the introduction of an entirely new sort would be quite a novelty. The Altringham, and scarlet Studley, have been more or less grown during the three or four past years; but still they are not generally known, or their qualities properly appreciated, particularly the former. In England, where immense crops of carrots are raised, the Altringham is preferred to all others for cattle, producing a heavier and better crop. In truth, it is nearly exclusively cultivated; single roots have been grown, weighing nine pounds. We hope to see it take the place of the long Orange for field culture, where it produces a much more profitable crop. The scarlet Studley is also a fine variety, which deserves to be extensively grown, both for its excellent qualities and for its beauty. These two varieties, though not new, we have thought proper to mention with the hope that it may be the means of rendering them more generally known. As a new variety, we find mentioned in English publications one called the early white German; but we have learned nothing of its merits. Both this variety and the scarlet Studley are advertised by foreign seedsmen as *choice* vegetable seeds.

In the third *Report* of Drummond's Agricultural Museum, a work containing much useful information upon agriculture, we find the following notice respecting the sowing of carrot seeds: as the same has never met our eye in any American publication, we have been induced to copy it, that our farmers may try the experiment, and ascertain whether it is important to the agriculturist. It is stated that the carrot crop has greatly increased in Scotland within a few years, and that it has been in a degree owing to the method of successfully vegetating the seed, which was first published in the above report: the system is, to "bring the seed to the point of vegetating, before sowing, by mixing it with sand or earth, kept moist and turned occasionally for several days; to manage, in the drills, that some nourishing compost including moss, if possible, be right under the seed, and within reach of the infant plant; and we may add, that to prevent vermin destroying the crop in its early state, some cultivators find it advantageous to mix up flour of sulphur with the seed, weight for weight.

Corn.—We should not notice this article now, but to say something in regard to the variety called the Dutton. Few of our readers, we apprehend, look into our pages for much information concerning the practical part of agriculture; but they may well suppose that we should occasionally notice its progress, and enumerate any very important improvements made in the art, which are not only of benefit to the farmer, but may be, in a greater or less degree, so to the marketman, or the cultivator of vegetables for his own table. This variety, which we believe to be nothing more than the old kind of corn well known, some years ago, as the Sioux, has since acquired the local names of the Lathrop corn, the Colman corn, the Buel corn, the Phinny corn, and lastly the Dutton corn, under which name much has been said respecting it in the agricultural papers of the past season. It is certainly a very valuable kind, and yields a great crop;

and during the last cool season it ripened well in the vicinity of Boston. We should recommend it, from what we know of it, to farmers, as the best variety for a certain and profitable crop. For the purposes of the table, to be used when green, it does not possess the merits of the old and well known varieties.

Lettuces.—We have nothing particular to add respecting lettuces to what we stated last season. We have not heard of any new or remarkable kinds, and we believe that none of any great merit, (unless a few new Cos lettuces,) have been added to the already mentioned sorts. What we have before stated in regard to the synonymous names in catalogues will apply with equal force at the present moment: but we look forward to a correction of the many errors which exists in the catalogues of seedsmen. The new Cosses are called the new Pearl Cos and the *finé* new Brighton Cos. The Cos lettuces, however, are not cultivated much in this country.

Peas.—Since our articles of last year, one of the kinds we then enumerated has been tried in the vicinity of Boston. This was the Early Warwick pea; and a friend on whom we can rely for information states to us that it is one of the most profuse bearers he has ever grown; and that the peas are also of superior flavor. It will, in all probability, by another season, be introduced, as it should be into pretty general cultivation.

Groom's superb Dwarf blue.—We name this variety again that it may not be forgotten by those who are desirous of possessing such an excellent pea.

The following are new varieties:—Cedo nulli, said to be remarkably early; Smith's superb early double blossom, new branching Prolific, and the new transparent Neapolitan: we have also noticed that a new Marrow pea of great merit has been raised, but not in sufficient quantity for the trade.

Potatoes.—Since the introduction of the forty-fold potato there has not been any new variety added to our collections of importance. This kind is gaining favor, and has been quite extensively cultivated the past year. The produce is immensely great; and though they are sometimes small, probably arising from a too light soil or warm situation, or from planting too many potatoes in a hill, yet when properly grown, they acquire a good size, ripen early and keep well.

The Rohan potato is the name of a new variety lately mentioned in the agricultural papers. Judge Buel, in his *Cultivator*, speaks of it as a "species [variety] of uncommon size and productiveness." He obtained only two tubers from France, in the fall of 1836, but, by the kindness of Mr. Thompson of Catskill, he says, he was enabled to increase the quantity to twelve pounds. The tubers were divided into sets of two eyes each, and one planted in a hill, four feet apart in a piece of ground much shaded, and in a low situation: the crop was dug in September, and weighed and measured; weight, 525 pounds—measured 9 bushels; thirty-five of the largest tubers filled a bushel basket. Of the quality he had not been able to decide in November when his remarks were made. Others, however, have pronounced them very superior for the table. Judge Buel, in conclusion, states that they are "undoubtedly the most productive variety" he has ever met with. The above statement however, does not make them so productive a variety by more than thirty per cent. as the forty-fold, the latter having yielded 70 lbs. to 1 lb. of sets. We shall notice this variety again when we have more information respecting it.

Our readers have probably noticed, in the report of the exhibition of the Columbian Horticultural Society at Washington, that the Ash-leaf kidney and the Mercer potatoes were exhibited at the fall show of that society. The first of these is said to be a fine variety, very early, waxy, and of good flavor: the latter is somewhat known, and is also a fine kind. We hope both of them will find their way into the gardens in the vicinity of New York and Boston.

The American early is the name of a variety which is considerably cultivated in Scotland: the seed was received from New York a few years since. We cannot imagine what this variety can be, unless the Nonpareil, which we noticed last year; the kind was stated, when sent to Scotland, to be the best grown in the vicinity of New York. We notice it that any of our friends in the latter city who may know it, or those who sent the seed away, will inform us of its origin and its qualities, and under what name it may be known at the present time in that vicinity.

Hill's early.—This is the name of a very good early variety which is much cultivated around Boston. It is a fair looking potato, of good quality, and is well deserving of growth for an early crop.

Rhubarb.—Since the introduction of Wilmot's superb, we believe there has not been any new additions to our gardens. This variety has taken the place, in many instances, of the formerly cultivated kinds, and it is considered superior in flavor, more tender, and very much earlier in its growth. From a very few seeds, which were first received in the country in 1834, the present stock has arisen. We recommend it to all who are forming new plantations.

The Goliath and Giant rhubarbs have long been celebrated in England, and we should be happy to see them introduced into this country. They are of exceedingly vigorous growth and, withal, tender and fine flavored. We hope that this notice of them will excite those who esteem this vegetable (and who does not?) to make some exertions to procure them.

Youell's celebrated Tobolsk rhubarb.—This is an entirely new variety, which has created no little noise among the horticultural community of England, if we may judge from their periodicals. It is brought out under the "especial patronage" of the queen, to whom the grower, Mr. Youell, sent specimens for trial. In order that our readers may know every thing in relation to it, we extract the following, from Mr. Youell's advertisement:—

"This highly esteemed variety will be found to be the earliest of all early sorts. As a proof of this extraordinary precocity, it was in this season, [1837.] ready for TARTS, &c. the *twentieth of February*, on the open border, in a very exposed situation, and will continue to produce its fine large stalks till September.

"It would be useless to eulogize its merits, farther than the great demand for it last season, together with the many high testimonials of approbation received, claim for it a decided superiority.

"The Tobolsk rhubarb may be grown in boxes or pots, in any common garden mould, or enveloped in damp moss, and placed in a closet, dark cellar, or the back fire-room of a hot-house, and watered occasionally, when it will produce the stalks of a beautiful transparent delicate pink, containing a rich, vinous, juicy pulp; and when cooked retains its beautiful color, which renders it an elegant addition, as well as delicious luxury, to the table, at a season when fruits are unattainable. *Roots planted in November will be ready for cutting*

[the stalks] in *January*. A fresh box brought in every three weeks will afford a regular supply; and the plants, when done with, may be taken out of the boxes and replanted in the open ground, and may again be cut for use in summer, and replaced in the cellar, &c., in November.

"This rhubarb makes an excellent preserve when cut into pieces an inch and a half long, and preserved in sugar."

Thus much we have set forth in the advertisement, and the letter communicated, by order of the queen, to Mr. Youell, states that "its excellent qualities fully justify the high character" he had previously given it.

Certainly it will prove a valuable variety, particularly for forcing, as in our climate, however so early it might be in that of England, we should never expect to see it in a fit state for cutting, in the open ground, without artificial means of some kind, before the early part of April: but as it can be so easily managed in boxes, in almost every situation, out of the danger of frost, it may be had at all seasons: besides this, it has the rare property of retaining its beautiful color, (a delicate pink,) which would give it an additional and decided value, were it deficient in other particulars. We certainly hope that some of our enterprising amateurs or seedsmen will introduce this variety; for if it equals the description given of it, or even comes near to it, it will be a most important acquisition. Immense quantities of rhubarb are now disposed of in our markets, and the sale is extending every year. Could it be supplied in quantity during the months of January, February and March, it would command a liberal price. By the return of another season we hope we shall be able to give some account of this variety, gathered from its cultivation in our own gardens.

Squashes.—The autumnal marrow, noticed by us before has become a very favorite variety. In Essex County, and particularly around Salem, where it was first introduced, immense quantities have been raised both for private use and for the market. In Lynn, we believe, one farmer raised twenty tons the past year. They are ripe for eating very early in August and September, on good soils, and keep as well as the crookneck. They also command a very good price. It has been stated that the autumnal marrow was superior to all other squashes: it may be so to some; but, in our opinion, a true Canada crookneck is a far more excellent vegetable: but as the latter is so apt to get mixed with the common crookneck, which is much coarser, and inferior in many respects, the autumnal marrow offers an excellent substitute. It produces great crops, and with a certainty of being mostly matured, even in the coldest seasons, if the two last may be considered standards from which to draw conclusions. It should be strongly impressed upon the minds of those who cultivate this variety, that they must either procure their seeds from those who can be depended upon, or, should they raise their own, they must be particular to save only from such as could not have had their blossoms fertilized by any other kind.

The apple squash is the name of a fine little summer variety, deserving of extensive growth. It is decidedly superior to either the common bush or scollop, or the summer crookneck. We believe it is not very new, although it is rarely met with in gardens; it is however, too valuable to suffer such neglect. It may be also used as a winter squash in the early months of that season, when it will be found a

capital vegetable. We bespeak for it a place in the garden of every cultivator of vegetables for his own use.

Tomato.—Some time since we received a few seeds of the small yellow fruited tomato from our friend and correspondent, Dr. Ward, of Athens, Ga. This variety, he informed us, was greatly preferred to the common large fruited, in that section of the country, and was cultivated, to the almost entire exclusion of the latter. Our seeds were planted so late in the spring, and the season was so cold, that but six or seven of the fruits ripened; and as we wished to preserve them for the seed, we did not have an opportunity to fully ascertain their merits; but from a trial of one or two of these, we should not hesitate to recommend this variety for extensive growth.

We had intended to make some general remarks upon the past season as favorable or unfavorable to the growth of vegetables; but we have already occupied so much room, that for the present we close this article.

Bounty to Silk and Mulberries.

[FROM THE FARMER AND GARDENER.]

Report of the Committee on Agriculture, in the House of Delegates of Maryland, upon the Growth and the Manufacture of Silk.

The committee on Agriculture, to whom was referred the petition of sundry citizens of Queen Anne's county, praying aid from the State in behalf of the Silk culture, have had the same under consideration, and beg leave respectfully to Report:

That the measure commended to the adoption of the Legislature by the petitioners, is one of deep moment, involving in its consequences, the introduction of and success of the silk culture, and the immense benefits to be derived from that source of profitable employment. Your committee have witnessed the failure of agricultural industry, to realize adequate returns, the growing barriers to enterprise, incident to a soil deprived of much of its fertility by exhausting crops, and the consequent emigration of many of our most active and useful citizens to the South and West, for the last few years, with feelings of deep concern, and they regard the inquiry which seeks a remedy for those evils, as one of pervading importance, worthy the profound attention both of the patriot and statesmen.

In view of the decided advantages of the silk culture over most other branches of husbandry, the success with which it has been introduced and carried on in the Eastern and Northern States, together with the peculiarly favorable nature of our soil and climate to the growth of the Mulberry, and propagation of silk worm, compared with that of the States referred to, your committee entertain the opinion, that the introduction of this culture promises to supply a most important remedy for the defects and failures of our present system of husbandry, and indulge the hope that a period is fast approaching when much of the embarrassment resulting from the want of success in agricultural pursuits, will yield to the influence of a wise and liberal policy in reference to this object.

Your committee deem it unnecessary to enter into a lengthy investigation of the value of silk, and the kind of labor which may be successfully employed in its production, to show the paramount advantages

of the culture and will only advert to a few facts, in connexion with this branch of the subject, in order to prove the soundness of their position.

Your committee are informed, by authority upon which they can rely, "an acre of land planted with Chinese mulberry, when the trees are full grown, can be made to yield 333 $\frac{1}{3}$ pounds of raw silk annually, which at \$4.00 per pound, will be worth the gross sum of \$1,333 $\frac{1}{3}$, and when converted into sewings, at the minimum price of \$7.00 per pound, will amount to the sum of \$2,333, 33 $\frac{1}{3}$ cts. from which, upon deducting \$870, 18, an amount sufficient to cover all expenses of culture and manufacture, will result in a nett profit of \$1,463. 50 per acre; and that seven tenths of the labor during the feeding season, can be performed by children from 7 to 10 years of age, and by aged and infirm persons."

This, as your committee perceive, would give a comfortable support to hundreds of widows and children, now dependent from their helplessness and want of employment, and bring into active value a large portion of slave labor, at present wholly useless to the owners. It is also stated, upon like authority, that "silk made from worms fed on foliage, grown on thin, poor, sandy or gravelly soils, is the most lustrous and tenacious, and commands the highest price, whether sold as raw silk for manufacturing purposes, or for sewings;" a statement which if true, while it favors the pleasing anticipation, may be reclaimed without any extraordinary effort or outlay, and made subservient to the common weal, affords an additional inducement for the introduction and encouragement of the culture.

May not your committee, therefore, flatter themselves, that by the introduction of this new resource of industry, many who are induced to abandon the home of their childhood, in quest of a more fertile soil, with a view to reap more abundant harvests, and be better repaid for their toil, might be prevailed upon to continue their residence among us, with the full assurance of competent support. In order to show the amount of profit which may be expected to inure to the State at large, from the cultivation of silk, your committee beg leave to refer to a report made to Congress at the last annual session, from which it appears, that "the importations of silks during the year ending 30th September, 1837, amounted to \$17,477,900; and, as the committee observes most of this enormous amount is consumed in this country, and is an annual tax upon consumers, and a total loss upon them and the country, who are unproductively or unprofitably employed, to produce and manufacture the whole amount. If this be so, it follows as a necessary consequence, that we sustain an annual loss of double that amount in our unemployed and misapplied labor."

Assuming these positions to be correct, your committee foresee, that when our farmers come to adopt this culture as a branch of husbandry, thousands will be added to the annual value of our products to the no small advancement of the best interests of society.

When our committee reflect upon the importance of agriculture to the welfare of the State, its past failures, and present depressed condition in Maryland, together with the prospect of a falling off in population, from the operation of these causes, they regret the indifference with which the Legislature has treated its claims; that while millions have been bestowed upon other objects, agriculture alone, without which, in a country like ours, no other enterprize can succeed, should have been passed by unheeded, and left to struggle

against every obstacle, unaided and unassisted. In view, therefore, of all these considerations, they are impressed with the necessity of a change of policy in regard to this most important object. Your committee think it is due to the claims of agriculture, to appropriate some portion of the State's funds towards its improvement, and they know of nothing so well calculated to effect this purpose, as the silk culture. Some of our enterprising citizens have already engaged in the business, and have succeeded in raising and manufacturing fine specimens of sewing silk, but the cultivation is very limited, and may be said to exist only in a state of infancy. Under these circumstances of the culture, partial failures may be expected to attend the first attempts of our farmers, from want of information; losses will doubtless be incurred from inexperience; and it only requires the munificent aid of the State to ensure the benefits of a successful pursuit of this branch of industry, by supplying bounties upon production, sufficient to cover such losses, and excite a spirit of inquiry among our agriculturists.

Your committee therefore deem it expedient to grant the prayer of the petitioners, and beg leave to submit a bill embracing the object prayed for.

All of which is most respectfully submitted.

S. N. C. WHITE, Chairman.

By order,
Jos. C. TALBOTT, Clerk,

Indian Corn.

[FROM THE FARMERS' CABINET.]

The following communication was read to the Philadelphia Agricultural Society, February 21, 1838, and directed to be published in the Farmers' Cabinet.

Of all the kinds of grain raised in the United States, Indian corn is the most valuable, taking into view the quantity and the price per bushel, and it has been a subject of much solicitude for some years past, that the early frosts have done such extensive injury to it; diminishing the crops and otherwise rendering it of much less value for feeding stock. In the South, the seasons are sufficiently long and warm to mature it, but in the middle and northern states this is not the case, and consequently, our farmers have been directing their attention to other varieties than those heretofore cultivated, that will ripen earlier and bear planting at a latter period. Of the kinds experimented upon with this view none has succeeded so well as the variety called the "Dutton Corn." This answers the purpose completely, as it may be planted the latter part of May, and even as late as the first of June, and cut off the first week in September fully ripe. It is a hard corn, deeply yellow, grains set very close, generally twelve rows, sometimes more, and never eight. It is remarkably heavy and believed to be more sweet and nutritious than the ordinary kind of corn usually raised in our country. The stalk is small and it shades the ground less than other kinds, and of course admits of being planted much nearer together. Much of the small eight rowed yellow northern corn, which also ripens early but not so soon as the Dutton, has

been sold some years past for the real invaluable "Dutton corn." This in some instances has produced much disappointment and loss, but perhaps the venders of it, have themselves been deceived and no fraud intended.

Isaac Hoberts, near Springmill, in Montgomery county, raised an acre and a half of it last year, which produced about seventy-five bushels without a soft ear. It was cut off the first week in September and the ground ploughed and sowed with winter grain.

The rats and mice which are permitted to be good judges of the qualities of grain, have displayed a very decided preference for the Dutton corn, where that and the common kind have been equally accessible to them.

A. B.

Indian Wheat.

[FROM THE NEW-ENGLAND FARMER.]

This is the name applied to a grain, which recently has been brought into notice by its extraordinary productiveness, and of which as inquiries are constantly made of us, we propose to give what information we possess.

The plant referred to is, without question, the Tartarian Buck-wheat; or as it is called by others, the Siberian Buck-wheat. It belongs to the tribe of the *Polgonum* from its many sides; and its name Buck-wheat is supposed to be a corruption of Beech-wheat from the resemblance of its seeds to the Beech mast. The cultivation of this particular kind of Buck-wheat is not new in this country nor in this state. The recent excitement in regard to it seems to have been accidental; its value perhaps being more particularly brought into view by the failure of common wheat through the grain worm and by rust; and the loss of the Indian Corn by the inclemency of the seasons. This particular kind has been several years cultivated in Pennsylvania; and a beautiful sample of it was brought to us from the north-western parts of that state three years since; but without any name by which to designate it or any account of its cultivation or its yield. It has been likewise for several years cultivated successfully in Hampshire County in this State. It was said to have been introduced into Germany a century ago; and within a few years has been cultivated in Great Britain. It is supposed to possess considerable advantages over the kind that has been usually cultivated, not only because it is considerably heavier in the grain, but is generally considered more palatable. It is said to do well even in the poorest soils; is not affected by cold; and being more disposed to branch out and spread its stalks, requires not no much seed for its cultivation as the common kind of buck-wheat. Some persons who have cultivated it, demur to the fact of its being more productive; and complain of its flour as being blackish and rather bitter. These differences can only be reconciled by supposing differences in the modes of cultivation; in the nature of the soils, upon which it grows; in the kind of manure employed; in the manner of its being cured; and in the manufacture of the bread itself.

With a view to give the best information we have been able to

obtain of its cultivation and history we here subjoin some extracts from letters received in answer to our inquiries.

"Of its origin, says one of our correspondents, I know nothing, but report says some years since a traveller fed his horse at a public house, in a town a few miles north of us (Hartland Vt.) and that after he left, a few grains were found in the trough in some respects resembling buck-wheat; and that these being sown, produced the grain now known by the name of Indian Wheat. It produced 30 or 40 bushels to the acre on ordinary land, such as will not bear a good crop of any other grain; and sometimes yields 75 to 100 bushels to the acre."

"Our farmers differ much as to the quantity of seed that should be sown. Some put on a bushel some not more than eight quarts. I should say from 16 to 25 quarts. It may be sown any time till July. It requires from two to three months to come to maturity; if sown too early it will be in danger from late frosts. About the middle of June is the usual time of sowing here."

"The land should not be too rich. On common land without manure it succeeds well. Poor sandy land that is not worth cultivating in any other grain produces a fair crop. The ground should be prepared as for rye or oats. If the land be poor, it should be left as smooth as possible that the grain may be cradled low; as it generally branches out near the ground, especially when sowed thinly or on poor land. The average weight is 48 to 50lbs. per bushel. It is used for various kinds of bread stuffs; also for feeding hogs, horses, cows, &c. When floured as it should be, it makes good bread if eaten when new, whether warm or cold. It will mix well with rye and Indian meal for coarse bread.—It is thought by some to be equal to corn for fattening hogs, bushel for bushel; but I think this is a mistake. I have known no experiments to test its value. It is fed to horses by some persons, but probably oats by weight are preferable. On the I think it a very valuable kind of grain, especially in places where the land is naturally poor or has become exhausted by long continued cultivation."

We have another letter before us, which states: "I suppose the right name of this grain to be Indian-wheat. It has been cultivated a number of years in Vermont, and in some parts of New York; but where it originally came from, I cannot tell. I broke up last year about 2 1-8 acres of a piece of pasture land; sowed one bushel and two quarts, and obtained one hundred bushels, which was the greatest yield I have ever heard of. It has been raised on almost all kinds of land. I sowed it last year on the 10th of June. I think it should be gathered when three fourths of the grain are ripe. It will produce from twenty to twenty-five pounds of flour per bushel. It is used as an article of food considerably in these times of scarcity, and is much used for fattening swine."

Such are the accounts we have received of the cultivation of this article of produce, which is comparatively new among us. We have been informed on authority on which we rely that it has this year yielded seventy-five bushels to the acre; but the circumstances under which this product has been obtained, have not come to our knowledge. It would be wrong to calculate upon any such amount as usual or probable. That which we have tested weighed 49lbs. to the bushel. A farmer with whom we are acquainted, who has used it in his family, has obtained 35lbs. of flour to a bushel of grain. A grain

weighing this much, and yielding in a poor soil, without manure, even 25 or 30 bushels to the acre, must be pronounced a valuable acquisition. It is advised by some farmers to use it for horses; but one writer says, he has known it to produce a stupifying effect.—Young says a bushel goes farther than two bushels of oats. In fattening swine it is said that eight bushels of buck-wheat will go as far as twelve bushels of barley-meal. We give these statements entirely upon the authority of others, having had very partial experience in the use of it for feeding. Buck-wheat cakes, which are almost a standing dish in Pennsylvania and Maryland, when well made, and eaten warm, are much esteemed by most people; are deemed nutritious; and have the advantage of not turning acid upon the stomach.

The plant is cultivated in many places extensively for its advantages in feeding Bees; its blossoms containing a large quantity of honey and remaining a long time open. different plants in the same field, and different parts of the same plant opening in flower at different times. One writer says "the *haulm* of Buck-wheat is more valuable than clover if cut while in flower." It is of little value as food for animals after the seed has ripened.

One person says he has seen hogs after having eaten heartily of it become so inebriated as to be unable to walk without reeling. How far the use of it for swine would under such circumstances compromise those good men, who have signed the temperance pledge, is a nice question in casuistry, which we shall leave to them to decide. Perhaps they will construe their obligations in this matter as applying to the furnishing the means of intoxication only to human swine.

On Population and Cultivation.

[FROM THE FARMER'S CABINET.]

The progress of agricultural science during the last quarter of a century, has occasioned many estimates of the amount of population a given quantity of land may be made capable of supporting.

With this question is intimately connected that of the area or number of square miles of cultivatable soil a country may possess.

Thus, an approximation may be made to the prospective population, production, power, and wealth of any country. The tendency of the human mind to dive into futurity, may be satiated by a fair calculation. The seas of Empire in after ages, may be indicated, more extensive than those of Alexander, Augustus or Tamerlane. Facilities of communication may be so extended, that a continent can be advantageously united in one vast Republic.

Already have the predictions of European statesmen, that our Federal Republic would fall in pieces by reason of its extent, and, the inconvenience of communication, been falsified by the Steam-Boat and Locomotive Engine.

The dream of the Poet—

"Westward the march of Empire takes its way,"

is realized.

Maclaren, a British writer of authority, has recorded the opinion, that this Continent, though less than half the size of the old, contains an equal quantity of useful soil, and a much more than equal quantity of productive power. He estimates that in America there are

upwards of four millions of square miles of land, each capable of supporting two hundred persons, and nearly six millions of square miles, each capable of supporting four hundred and ninety persons.

The above estimate of the capability of America, to support a dense population, would give us ten millions of square miles of fertile soil, averaging three hundred and seventy-four persons to the square mile, and an aggregate of three thousand seven hundred and forty millions of inhabitants. The existing population of America is estimated at thirty-seven millions, which, if we adopt these data, would give three and seven tenths inhabitants to each square mile of productive soil.

The most improved and best cultivated portions of the earth, as Great Britain, Holland, and Belgium, average about two hundred inhabitants to the square mile of their whole area. Pennsylvania contains about thirty, and her best cultivated agricultural counties, as Montgomery, about one hundred.

In Great Britain only sixty-four thousand square miles, or one half the entire surface, has yet been brought under cultivation,—so that her present population is nearly four hundred inhabitants to every square mile of cultivated soil. Her political economists estimate that the land now in cultivation could be made to produce sufficient bread, vegetables, and meat, for seventy millions of inhabitants, or nearly three times the existing number.

The elaborate report of the Secretary of the Treasury of the United States, of Dec. 5th, 1837, exhibits a view of the production, and consumption of wheat flour and meal, great interest to the farmer. He estimates our population at fifteen millions, and the consumption of each individual to average a pound of flour or meal per day. "At the price of 3 cents per lb. for wheat flour and only $1\frac{1}{2}$ cents per pound for meal from the cheaper varieties of grain, which is not far from the average of 1834 and '35, the cost of bread alone (if only one half the population used wheat flour, and the other materials less costly) would be about one hundred and twenty-four millions of dollars." This is exclusive of the "vast quantity of grain which is distilled, or employed in the arts, or consumed by domestic animals."

But at the increased cost of last year, estimated in the report at 80 per cent., the value of bread stuffs alone, consumed by our own population, would be about two hundred and twenty-four millions of dollars. The data furnished by the Secretary of the Treasury, while they show the enormous domestic consumption of bread stuffs, exhibit at the same time the comparative insignificance of the foreign markets, the exports to all of which during the most productive years have been but about fourteen millions of dollars.

Let the Agriculturist remember, 1st. That the increased consumption of grain has for several years more than equalled the augmented production. 2dly. The abstraction of hands from rural labor for manufacturing and labor upon public improvements. 3dly. The shortness of the last crop, as compared with average seasons, in several important sections. 4thly. The fact that improvements in husbandry are necessarily adopted very gradually. These may be considered reasons sufficient to account not only for the present high price of produce, but a fair calculation may be predicated thereon, that there must be at least two consecutively productive seasons before prices can be reduced to a low standard.

This should operate as a stimulus to every man connected with the

cultivation of the soil, by judicious experiments with the various descriptions of manures, and other methods of cultivation, to extract from the earth the full amount it is capable of producing. For even in this "Pennsylvania of ours," though pre-eminently a farming state, scientific agriculture has not progressed in a comparative ratio, to its importance.

But another duty would remain, namely; to communicate to others the information gained by judgment and skill. To effect this the Periodical Agricultural press of our country affords an excellent medium. The establishment of such papers indeed, constitute an important era in Agricultural history. For who can estimate the vast amount of every species of improvement in cultivation, the results of individual exertion for ages, that has been lost, for the want of convenient methods of communication.

Your Friend,

MORRIS LONGSTRETH.

Valley Green 1st, mo 1st, 1838.

Milk-Sick.

[FROM THE GEORGIA CONSTITUTIONALIST.]

Messrs. Editors:—Having recently travelled through a portion of the mountaneous parts of N. Carolina and Tennessee, I there first heard "of the Milk-sick," (a provincialism denoting a strange and unusual affection of some animals, particularly kine,) and finding this subject present itself in so singular and extraordinary a manner, I am induced to ask you to give this notice of it, a place in your paper hoping that its publication will elicit a disquisition, beneficial to a part of the community, if it should be so fortunate as to attract the attention of the learned faculty.

I will briefly state all that I know of this subject. The inhabitants assert that the animal may frequently, under the influence of "Milk-sick," apparently, be in good condition, while inactive, but if urged to a little exertion, suddenly dies and when its flesh is eaten by dogs and vultures, death is inevitable to them. The milk and butter of the animal under the power of this disease, effect those who eat of them, with the most singular and painful symptoms, sometimes producing death. It occurred to me immediately, that I had heard of some few dying in Augusta, and elsewhere, with somewhat similar symptoms, which makes me the more solicitous that this subject should attract public attention, for if the milk and butter of the animal, so seriously affect those who are under their gradual influence, why should not the butter when sent to market, have the same, if not even a more powerful effect on those who use it. Upon inquiring into the cause of "Milk-sick." I was informed by one woodsman, that it resulted from eating vegetables, upon the underside of whose leaves, an incrustation of sulphur had formed; others deny this, and the solution not proving satisfactory to me, I submit it to those better skilled in physiology than the woodman or

MYSELF.

Columbia County Ga. Jan. 3, 1838.

Osage Orange—Or Maclaura Auranta.

[FROM THE NEW-YORK WHIG.]

M. Mathew Bonafous, Director of the Royal Garden of Botany and Agriculture at Turin, reports that the leaves of this tree are a substitute for the Mulberry as food for Silk Worms. In the event of early frosts, cold or backward seasons, one tree, 12 or 15 feet high, will serve to feed, during the first and second stages, the worms produced by 2 or 3 ounces of eggs. It is common in several of our south-western States, where it rises to a height of 30 and 40 feet, with a stem 6 to 8 inches in diameter. It leaves early; its branches are thorny, and it will stand uninjured; a degree of cold that would destroy the foliage of the hardiest mulberry trees. The fruit is indifferent. The tree makes a good hedge, and should be cultivated by all our northern silk growers. It can be had of most of our nursery men, in this, and other large cities in the Union.

Remarks by the Editor of the Farmer and Gardener.

It is wonderful to see the avidity with which the American press seize upon foreign paragraphs to eclat to discoveries in Europe, which properly belong to our own citizens. Many years since, our venerable fellow-citizen Gen. Thomas Forman, of Cecil County of this State, fed the silk worm from the Maclura exclusively, and was so fortunate as to make as good cocoons as were ever raised from the mulberry. *His Discovery* was published in the American Farmer, and as it had several subscribers among the savans of Paris, the probability is, that the usefulness of this tree in this respect derives its origin from this fact. At all events, Gen. Forman has the precedence of nearly a dozen years over the discovery of M. Bonafous. We mention this fact, in order that if any credit be due for the discovery, that it may accrue to its rightful owner, to whose patriotism and gallantry our country is greatly indebted during our revolutionary struggle.

But with respect to the *Maclura*, we suspect the thorns with which it is so plentifully armed, must ever prevent it from being extensively used as silk worm foliage, owing to the difficulty of plucking its leaves. In the incipient stage of feeding it may, however, be found useful.

Improved Baden or Turin Corn.

[FROM THE FARMER AND GARDENER.]

To correct erroneous impressions relative to the character and value of the Baden Corn we are authorised to publish a letter received from Col. Mercer, of West River, Md., whose intelligence and observation as a planter is too well known to need comment. It is only necessary to state that after several years care in making his selection of seed, that he has produced a corn superior to the Baden, and particularly adapted to successful cultivation in this section of the country, being earlier, a pure white flint, and more productive than the common Baden Corn. Thus rendering it a certain crop, which cannot

be said in favor of the Baden unless planted further South, where it has the advantage of long seasons to allow it time to mature before the early frosts.

R. SINCLAIR, Jr. & CO.

February 16th, 1838.

—
Cedar Park, 9th Feb. 1838.

To R. SINCLAIR, Jr. & Co.

Gentlemen—In compliance with your request I have sent you an additional supply of the Baden Corn, and also a barrel of the Eastern Shore prolific, or Twin Corn, as now improved and cultivated by myself.

Of the former, I will say nothing, as its reputation seems to be completely established, but of the latter, I can confidently affirm, that, after a series of careful experiments made during six successive years, I prefer it to any variety that I have ever cultivated. In comparing it with the Baden, or the Easter Shore varieties, I think you will readily perceive that it is of a purer and more uniform character than either, although they are all of the same family and manifestly closely allied. This superiority, I attribute to the course that I have pursued in selecting my seed during the last six or seven years. I procured in the commencement my seed from a parcel that had been selected for seed in the field, by one of the most distinguished agriculturists, on the Eastern Shore, and although I found that it fully realized all I had heard of its productiveness, (bearing always two and frequently six, eight, and ten years to the stalk.) yet that it was deficient in whiteness, and in weight. In order to obviate these two important objections, I commenced an additional and stricter selection. Out of the mass collected in the field from the most prolific stalks, I selected the whitest and most flinty ears for seed, and by continuing this process now for six or seven years, I have obtained the corn which I send you. With great respect,

Your obedient servant,
JOHN MERCER.

PART III.

MISCELLANEOUS INTELLIGENCE.

Fire proof Cement.—The French cement for the roofs of houses, to preserve the wood and protect it from fire, is made in the following manner:

Take as much lime as is usual in making a pot full of white wash, and let it be mixed in a pail full of water; in this put two and a half pounds of brown sugar, and three pounds of fine salt; if 1 pound of alum be added it will greatly improve the cement, mix them well together, and the cement is completed. A little lampblack, yellow ochre, or other coloring commodity, may be introduced to change the color of the cement, to please the fancy of those who prefer it. It has been used with great success, and been recommended particularly as a protection against fire. Small sparks of fire, that frequently lodge on the roofs of houses, are prevented by this cement from burning the shingles. So cheap and valuable a precaution against the destructive element, ought not to pass untried. Those who wish to be better satisfied of its utility can easily make the experiment by using it on a small temporary building; or it may be tried by shingles put together for the purpose, and then exposed to the fire.

The Unit at last.—The bill granting *bounties* for the encouragement of the growth of wheat in the state of Massachusetts, has passed the House of Representatives of that State by an *unanimous* vote. This law prospectively appropriates at least a hundred thousand dollars for the promotion of this object, and will, we have no doubt, save to the people about *seven* or *eight* millions of dollars, annually, that being the amount hitherto expended out of the State in the purchase of bread-stuffs.

Extraordinary Product.—On eighteen square feet, less than half an acre of ground, Jacob Resor, Esq., at his residence, about seven miles below this city, on the river raised this season, of the Isabella, Cape, and Catawba Grape, sufficient to make *six hundred and sixty-seven gallons of pure Wine*—besides a large quantity consumed in the family, and otherwise disposed of, estimated to be sufficient to have made the amount full 700 gallons. It is to be remarked that this is the first bearing season of the vines. The Isabella and the Cape yielded at the rate of fifteen hundred gallons to the acre!—the Catawba less productive, from the rot having destroyed many of the grapes. Mr. Resor values this crop of wine, at one thousand dollars—a pretty handsome remuneration for half an acre of ground and ten days labor.—*Cincinnati Post*.

Grape Jelly.—We have examined a specimen of this exquisite article. It is made from the Isabella ripe grape, raised at Croton Vineyards; the object has been to preserve the flavor and virtues of the ripe fruit. In this, the preparation has met with the most perfect success. We recommend the jelly as delicious to the taste, and an excellent beverage to the sick.—*N. Y. Express*.

Economical Food for Horses.—Nine pounds of bread, made of oatmeal and bean flour, will afford more nourishment to horses than a bushel of oats of good quality, weighing twelve or thirteen pounds. A French farmer in Hainault, feeds his horses during winter, with a mixture of boiled potatoes and chopped straw, giving each horse daily, at two feeds, about fourteen pounds of potatoes, which food agrees with the horses, and is much relished by them.

Progress of a pound of Cotton.—The following progress of one pound weight of manufactured cotton, will show the importance of the cotton trade to Great Britain, in a very conspicuous manner:

"There was sent off for London, lately, from Paisley, a small piece of muslin, about one pound weight, the history of which is as follows:

"The wool came from the East Indies to London; from London it went into Lancashire, where it was manufactured into yarn; from Manchester it was sent to Paisley, where it was woven; it was sent to Ayrshire next, where it was tamed; afterwards it was conveyed to Dumbarton, where it was hand-sewed, and again returned to Paisley, when it was sent to a distant part of the country of Renfrew, to be bleached, and was returned to Paisley, whence it was sent to Glasgow and was finished and from Glasgow was sent per coach to London. It is difficult precisely to ascertain the time taken to bring this article to market, but may be pretty near the truth to reckon it three years from the time it was packed in India, till incloth it arrived in the merchant's warehouse in London, whither it must have been conveyed 5000 miles by sea, and 920 by land, and contributed to reward no less than 150 people, whose services were necessary to the carriage and manufacture of this small quantity of cotton, and by which the value has been advanced 2000 per cent. What is said of this one piece, is descriptive of no considerable part of the trade.'"

Coughs and Colds.—Horse-radish cut into small pieces and chewed in the mouth is an excellent remedy for hoarseness, coughs, colds, and cases of incipient consumption.

Singular Hen.—Mr. James Drinkwater, of Harpurhey, near Manchester, Eng. has a hen upwards of two years old; it has not a white feather on it, but it is as black as jet. For upwards of eighteen months it has laid an egg every other day, and, has never been known to change its feathers.

A Cancer.—Mr. Thomas Tyrell of Missouri advertises, says the New York Commercial advertiser, that the cancer upon his nose, which had been treated without success by Dr. Smith of N. Haven, and the ablest surgeons in the western country, had been cured in the following manner: He was recommended to use strong potash, made of the ashes of red oak bark, boiled down to the consistence of molasses, to cover with it, and in about an hour afterwards to cover it with a plaster of far, which must be removed after a few days, and if day protuberances remain in the wound, apply more potash to them, and the again, until they shall disappear, after which heal the wound with common salve. Caution and the knife had been previously used in vain. This treatment effected a speedy and perfect cure.

The Tree of Life.—The *Algarrova Tree* the growth of the Pampas and other provinces in South America, seems to have been expressly provided by Providence, for the sustenance of the rude inhabitants of those districts, and, if it were by an accident to be exterminated, it is scarcely too much to say that the population would follow it! It is the universal sustenance of the poor, the idle, and the destitute; there is a drink made from its bean-like pod, which is really excellent—its seeds are ground into palatable and nutritious flour—its leaves are used as the general food for cattle—and its branches, which are studded with sharp thorns, are stuck into the earth and wattled together into a kind of palisade which even a starving bull will not attempt to break through, though he sees the tempting pasture on the other side. The wood too is not only excellent for all agricultural and architectural purposes, but is, from its hard and solid texture, almost as durable as coals for fuel. Finally, even dogs are fond of the pod, and pigs fatten on it better than on any other food. The former will often leave their homes and live in the algarrova woods as long the pod is in season; and the poor inhabitants will none of them work—nor need they—while that portion of the algarrova tree lasts.

Price of Dahlias.—In Boston 50cts. to 6 dollars; in England, choice varieties command 10s. 6d. to 10s. The taste among growers seems to incline towards self-colored dahlias, and dark shades. Very few light colors have been raised the last year.

Communicated for the Southern Agriculturist.

Monthly Calendar of Horticulture, &c.

FOR JUNE.

This month is usually hot and dry, and but little is done in it further than keeping down the weeds, hoeing among the growing crops, and re-sowing such seeds as have failed, or been omitted.

Cauliflowers and Brocoli.—Some persons prefer to sow their main crop of Cauliflowers in this month, and assign as a reason, that they will not require to be transplanted but once, viz.: from the seed bed to the spot where they are to flower; but Cauliflowers sown now, when they do succeed, are never as large as those sown in April, besides which, they do not flower until January and February, and are frequently entirely destroyed by the frosts of winter. By pursuing the plan detailed in the last number, all the advantage of sowing in this month is gained, and the risks avoided. Should however, the sowing have been omitted or failed, seeds may now be sown.

Cabbages.—It is a good time to sow Cabbage seeds intended for the fall and winter use. We would recommend the Sugar Loaf and Battersea,—any of the varieties, however, may be sown. Those sown in former months will now be large enough to set out. Prepare the ground and manure it highly, and set out the plants from 2 to 3½ feet, according to the variety you may have.

Carrots.—If these are wanted, a small quantity may be sown, but unless great care be taken of them, they will not succeed.

Tomatoes.—In order to have a succession of tomatoes, seeds may now be sown, to be set out as soon as fit. These will continue bearing until killed by a frost.

Okra.—Where it is wished to have this vegetable late in the fall, seeds should now be planted. In some situations, (a low moist and well drained piece of ground, for instance) those planted in the spring will continue bearing until very late in the fall, but generally they are exhausted long before that. To ensure a crop at that time, therefore, a succession must be now planted.

Snap Beans.—These may be still planted, when a succession is desired.

Celery.—You may now transplant your celery plants, where they are to remain. A piece of low ground, *well drained*, is to be selected, and having spaded it up very deep and made it fine, make trenches a full spade deep, at the distance of four feet from each other. Into these, throw in a large quantity of well rotted manure, and turn it in,—rake it even, and set your plants in these trenches about 9 inches apart. As the plants advance in growth, have a little earth hauled up to them. In order to blanch them, proceed as follows: As soon as the plants have grown so that you can grasp their tops in your hands, gather them up, and

holding them close together with the left, rise the right hand to draw earth all around them, and so high as only to leave the extremities of the leaves out. Be careful that the earth be fine, and that none gets in between the leaves, or it would injure the plants. As they continue to grow, continue to draw earth up to them, always pressing the leaves as close as possible, and taking care that no earth falls in among them. Never leave more than the upper part of the leaves exposed,—the leaf stalks should always be covered with earth.

Leeks.—These should now be transplanted out from the seed beds. Have the ground finely prepared and highly manured. Mark out the rows 9 inches apart, and at every six inches, make a hole with a dibble, into which set a plant; but instead of pressing the earth up close to the plant, fasten the roots only, and leave the plant standing in the centre of the hole. By this course, Leeks may be grown larger, and be blanched higher, than by the old mode.

Let it be borne in mind, that all seeds sown in this month, must be protected against the hot sun, and be watered, not only until they come up, but for some time after.

NOTE.

G. L. C. favored us with a communication for this number of our journal. We extract from it, the only parts which can be considered in the least, within the legitimate scope of this work, or of general interest at this time. The present condition of our city, warrants our calling the attention of the City Council, as well as of individuals, to the extract, from "Messrs. Trotti and Eves' Report, to the Committee of the Edisto Canal Company," which is given us by G. L. C. in these words:

"On the Edisto, we discovered an inexhaustible bed of *free stone*, very easy to cut, and very hard when exposed to the air. The veins of *lime stone* (see *Ruffin on Calcareous Manures*) appear equally abundant, and both are met with at the edge of the river. *The first* could be brought to Charleston at half the price of brick, and the *latter* is said to make lime far preferable, to oyster shells."

"Charleston would be supplied for years with fire wood at very reduced prices, if this Canal (Rail Road) were opened—and brick too, for it runs through a country abounding with good clay to make it, and cheap fuel to burn it."